NEW EQUIPMENT DIGEST

A Penton Publication

June, 1960

Volume 25 — Number 6

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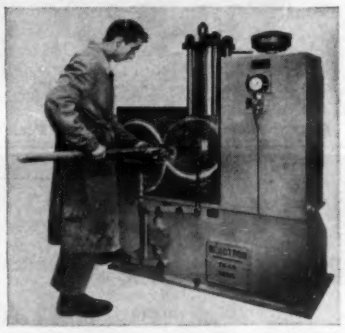
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 112

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

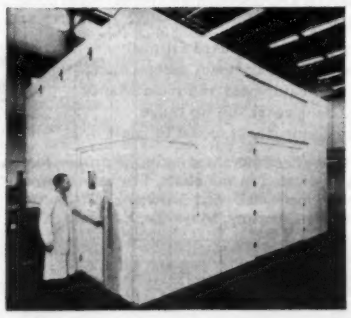
BAR STOCK SHEAR
hand or automatic feed torque type



Bar lengths as short as one - third the diameter of the stock are cut by the Reactron Torque - Shear. The high speed cut-off machine cuts bar stock of any standard shape, either heat treated or annealed, without loss of metal as there is no cross section deformation in shearing. Automatic and hand feed models are made in 1, 2, and 2¾-in. capacities. The French built machine cuts brass, aluminum, and other soft alloys, as well as high alloy refractory metals with equal facility. • **Salem-Brosius, Inc.**, Box 2222, Pittsburgh 30, Pa.

▲ For more details circle **NED-1 F** on enclosed inquiry slip ▲

ENVIRONMENTAL ENCLOSURE
knocked down, set up in 24 hr

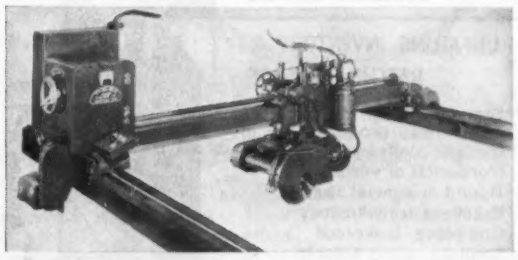


Temperature can be controlled to within ¼° F and relative humidity to less than 50 per cent in the Pre-Fab-Lab, a controlled environment enclosure that can be knocked down and set up in 24 hr. Used for controlled inspection and other environmental work, the modular enclosure is offered in inside dimensions of 15 x 23, 15 x 31, and 15 x 39 ft with 12 ft ceilings. Packaged room includes entrance airlock, air conditioning and cleaning system, internal lighting, and two 4 x 8-ft access doors on one side. • **Sheffield Corp.**, Box 893, Dayton 1, Ohio.

▲ For more details circle **NED-2 F** on enclosed inquiry slip ▲

METAL PLATE SAW
cuts up to 10 ft wide, 2 in. thick

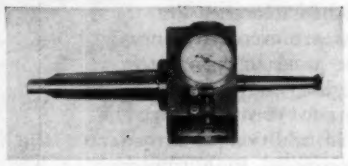
Aluminum and other nonferrous metals ranging up to 10 ft wide, 2 in. thick and in any length are readily cut into rectangles with this Model 111CX plate saw.



The 15-hp motor and saw blade arbor travel on a transverse rail which in turn moves along two side rails. This four-way movement, combined with the 90-degree swivel head, facilitates trimming all four sides of a plate without moving it. Proper speeds for various alloys are obtained with V-belt drive, and the integral spray-mist cooling system is air operated. • **Ty-Sa-Man Machine Co.**, 550 White Ave., Knoxville 1, Tenn.

▲ For more details circle **NED-3 F** on enclosed inquiry slip ▲

PRECISION BORING HEAD
has micrometer and indicator dials



Precision boring within 0.00005 in. is feasible with this Bokumicro-Dial boring head. The micrometer dial for quick adjustments gives direct readings, and the easy-to-read dial indicator assures extreme accuracy. It actually reads the cutting tool movement and compensates for backlash, thread compression, and other variables. The tool slide is adjustable from 0 to ¼ in. off center. Two models with ⅜ and ½-in. tool shanks can be used in any lathe, boring, or milling machine. • **Bokum Tool Co.**, 14755 Wildemere Ave., Detroit 38, Mich.

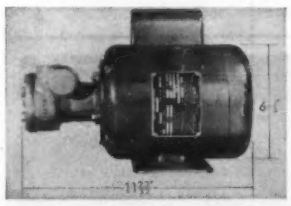
▲ For more details circle **NED-4 F** on enclosed inquiry slip ▲

CARBIDE MASONRY DRILLS
deep flutes clear gummy cuttings

Deep, wide flutes on spiral carbide-tipped masonry drills facilitate clearance of flaky or gummy cuttings from materials such as tile or asphalt. Drill diameters accurately match those of Rawlplug masonry anchors. Used in high-speed electric drills, bits have brazed-in carbide tips. Drill diameters range from 0.132 to 1.535 in., and lengths, from 2½ to 10 in. • **Rawlplug Co.**, 244 Petersville Rd., New Rochelle, N. Y.

▲ For more details circle **NED-5 F** on enclosed inquiry slip ▲

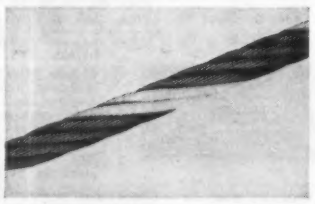
PUMP & MOTOR
pumps have 20-360 gph capacities



Hydraulic, lubrication, oil burner, fuel transfer, and other services are applications for Series 56 pump and motor combination. Motors in the NEMA 56 series range from ¼ to 1 hp, single or three phase. They may be combined with any of five pumps with capacities from 20 to 360 gph at 200 psi. Over-all dimensions are 6 11/16 x 11 23/32 in. • **Tuthill Pump Co.**, 939 E. 95th St., Chicago 19, Ill.

▲ For more details circle **NED-6 F** on enclosed inquiry slip ▲

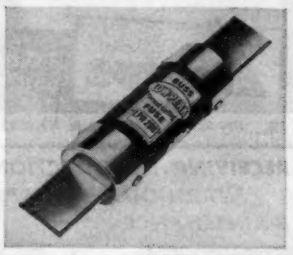
WIRE ROPE
drawing technique improves strength



Wire drawing technique used in manufacture of Double Gray X wire rope and the use of an independent wire rope core result in a 15 per cent increase in breaking strength over improved plow steel type. Molysulphide is employed in the drawing process and builds a thin, permanent molecular shield around each wire which separates the wires and cushions them against the effects of bending, crushing, and abrasion. Interaction between wires in each strand is nearly frictionless. Improved wire finish also results. • **Colorado Fuel & Iron Corp.**, 575 Madison Ave., New York, N. Y.

▲ For more details circle **NED-7 F** on enclosed inquiry slip ▲

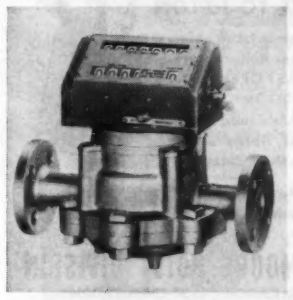
TIME-LAG FUSE
has high interrupting capacity



Circuits can be fused close to their normal current load with Buss Low-Peak fuses. Motor starting currents or other harmless overloads will not cause it to blow. Heavy fault currents cause the fuse to open so rapidly that fault current cannot build up to a damaging peak. It has an interrupting fault capacity up to 200,000 amp, limiting let-through current to low values and holding 500 per cent load for a minimum of 10 sec. Fuse fits standard switches and panelboards and is made in 15 to 600-amp and 250 and 600-v ratings. • **Bussmann Mfg. Div., McGraw-Edison Co.**, University at Jefferson, St. Louis 7, Mo.

▲ For more details circle **NED-8 F** on enclosed inquiry slip ▲

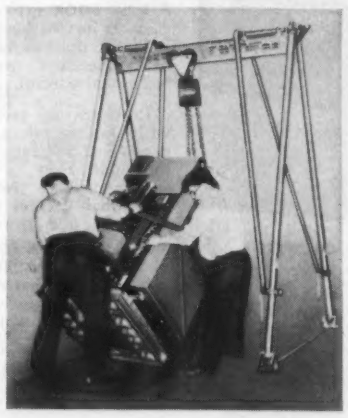
CHEMICAL LIQUID METER
internal works are stainless steel



Various chemical liquids including most acids, alkaline solutions, deionized water, and edible oils are measured by the Model BNV chemical liquid meter. Designed for small flows, the ¾-in. size unit supplements the 1 and 2-in. sizes previously made. Internal works are Type 316 stainless steel, and the measuring piston can be of any of several materials. Outer casing is stainless steel, carbon steel, or cast iron. Threaded or flanged connections and a range of register types are available. • **Buffalo Meter Co.**, 2917 Main St., Buffalo 14, N. Y.

▲ For more details circle **NED-9 F** on enclosed inquiry slip ▲

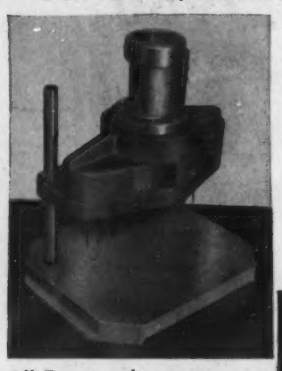
PORTABLE GANTRY
height adjustment is 6 ft



Heavy equipment is easily handled in close quarters by the Magic-Pole portable gantry. Telescoping legs allow up to 6-ft height adjustment, and its self-aligning I-beam can be safely loaded from off center. The trolley is free to travel the full length. Equipped with removable swivel lock casters and caster frames and spring loaded bolts, the gantry can be set low for moving under overhead obstacles. It also can be narrowed to under 4 ft. Both ends are adjustable separately for resting on platforms, truck beds, or in pits. Entire unit folds compactly for hauling or storage. Steel or aluminum alloy I-beams in spans up to 20 ft, heights to 17 ft, and capacities to 4 tons are available. • **B. E. Wallace Products Corp.**, Exton 19, Pa.

▲ For more details circle **NED-10 F** on enclosed inquiry slip ▲

FOR STRAIGHT-LINE DRILLING, REAMING, TAPPING,



Use **Zagar's IN-LINE HEAD**

Designed specifically for long, narrow hole patterns!

All Zagar advantages are included in the IN-LINE head. Any number of holes, in any pattern, on all centers within the area, can be drilled, tapped or reamed simultaneously in any material. Spindle diameters ¼" through 1". IN-LINE heads can be mounted on any standard drill press. You'll get full engineering data when you—

Write for Bulletin N-906

ZAGAR, INC. • 23880 Lakeland Blvd., Cleveland 23, Ohio

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ For more details circle **NED-11 F** on enclosed inquiry slip ▲

RECEIVING...PRODUCTION... WAREHOUSE...SHIPPING... MAINTENANCE

every department can use the CM CYCLONE HIGH-SPEED—HEAVY DUTY—ALUMINUM ALLOY CHAIN HOIST

CAPACITIES: ¼ TO 10 TON

● Help your men get lifting jobs done quicker, safer, with less physical effort. Increase labor dollar return. PORTABLE—Carry with one hand. EASY OPERATION—Less hand chain pull. LOW HEADROOM—Highest possible lift. CM-ALLOY flexible welded load chain. Lifetime lubrication. *More CYCLONE Hoists are in use today than any other hoist in their class.*

CYCLONE CATALOG NO. 145

Illustrates, describes and prices all models. Sent on request or ask your CM Distributor.

CM HOISTS **CHISHOLM-MOORE HOIST DIVISION**
COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: McKINNON COLUMBUS CHAIN LIMITED, ST. CATHARINES, ONT.

▲ For more details circle **NED-12 F** on enclosed inquiry slip ▲

DISTORTION IN TOOL STEELS

A NEW BOOK exploring the size and shape changes in tool steels during and after processing. Emphasis is placed on methods of heat treatment necessary for precise dimensional control.

Problems in producing tool steel parts with extreme tolerances (cutting tools, dies, gages, ball bearings, valves, etc.) are treated in detail. How to minimize or eliminate costly machine finishing by scientific dimensional control is thoroughly covered.

8 CHAPTERS
- Causes of Distortion
- Measurement of Dimensional Changes
- Calculation of Size Changes
- Control of Distortion
- Hardening
- Cold Treating
- Tempering
- Aging

WRITTEN FOR metals and materials engineers, tool engineers, designers, heat treaters, machinists, mechanical engineers and inspectors.

DISTORTION IN TOOL STEELS
173 Pages—Illustrated—Red Cloth Cover—6" X 9"—written by Dr. Bernard S. Lement—$10.00 per copy. Money refunded if book is returned within 10 days.

NAME _____
COMPANY _____
STREET _____
CITY _____ ZONE ____ STATE ____
Enclosed is $_____ for _____ copy(s) of Distortion in Tool Steels.
OR Bill Me ( ) Bill Company ( )
MAIL TO: N-1
American Society for Metals • METALS PARK • NOVELTY, OHIO

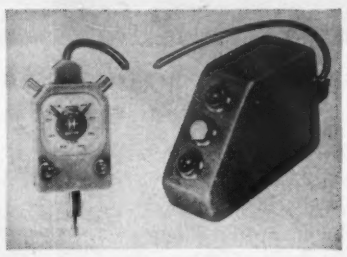
▲ For more details circle **NED-13 F** on enclosed inquiry slip ▲

SQUARE SPRAY NOZZLES
spray angle is 110 degrees

Capacities from 5.9 to 48 gpm at 30 psi are available in this full square pattern jet spray nozzle. Average spray angle of 110 degrees provides wide coverage in a short distance between spray nozzle and work. Designed for use on spray manifolds where open area is dimensionally limited, its square pattern minimizes spray overlap in multiple installations. Male and female pipe connections are available. • **Spraying Systems Co.**, 3211 Randolph St., Bellwood, Ill.

▲ For more details circle **NED-14 F** on enclosed inquiry slip ▲

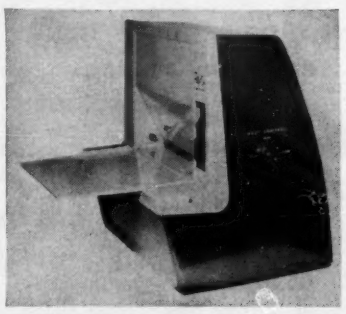
TOLERANCE INDICATOR
signals when limits are exceeded



Electric signal generated by the Kwik-Chek out-of-tolerance indicator whenever established tolerance limits are exceeded can be used to turn on lights or for automatic control. By the addition of an adapter, the light box (right) is converted to a summarizing box for up to six indicators when gaging multiple dimensions. With this arrangement the out-of-tolerance condition is signaled by "over" and/or "under" lights. A third light signals dimensions within tolerances. • **Hamilton Watch Co.**, Industrial Div., Lancaster, Pa.

▲ For more details circle **NED-15 F** on enclosed inquiry slip ▲

PLASTIC LAMINATOR
encases one or both sides

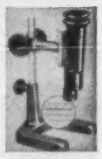


Dial settings enable the Ply-On plastic laminating machine to automatically hold low, medium, or high heats for encasing clippings and lightweight paper, photographs and file cards, or cardboard. The 30-lb machine preserves, protects, and enhances the appearance of business papers by encasing one or both sides in pliable plastic film in less than 10 sec. Laminated documents withstand moisture, solvents, grease, dirt, and handling. Papers up to 11 in. wide and any length can be encased. Cost of laminating a letter-sized original on both sides is 8 cents. Machine costs $335. • **American Photocopy Equipment Co.**, 2100 W. Dempster Ave., Evanston, Ill.

▲ For more details circle **NED-16 F** on enclosed inquiry slip ▲

UNUSUAL BARGAINS

MEASURING MICROSCOPE
DIRECT READING—ERECT IMAGE



Worth $80 to $100—but use of American-made war surplus optics results in unusual bargain. Reticle has scale .4" long with .005" gradations for 10 power use; and scale .2" long with .0025" gradations for 20 power use. Unlimited applications for direct measuring. Image is erect and correct right to left, optics are color corrected, ample eye relief. Microscope is 6" long, base 4½" x 4½"—can be raised from 8½" to 13".
Stock No. 70,266-AE .....$29.95 Postpaid

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NEW! CIRCULAR SLIDE RULE:
Pocket Size—Fast—Easy to Use!

Be a Math Whiz! New Circular Slide Rule multiplies, divides, figures fractions, percentages, squares, cubes, roots, proportions, circumferences, areas, retail prices, fuel consumption. Eliminates the confusions of ordinary slide-rules. Priced far lower. Faster, easier to learn and use. Constructed of 2 aluminum discs with plastic indicator. 3½" diameter. Directions included.
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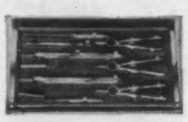
CLOSE OUT! MECHANICAL DRAWING SET



Regular Price $18.00, Our Price Only $8.00 Ppd. American manufacturer couldn't compete with foreign imports—thus you get a terrific bargain, even far below import prices. 10 handsome pieces in velvet-lined case. Nickel plated brass — precision American-made. We guarantee you'll be satisfied or money refunded.
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OVER 1,000 OPTICAL ITEMS . . . Many on-the-job helps . . . quality control aids! 128 pages — hundreds of illustrations. Many war surplus bargains! Imported instrumental Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs, experimenters, hobbyists, math learning aids. Write for FREE Catalog AE

EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle **NED-17 F** on enclosed inquiry slip ▲

NOW

a laboratory in a box!

New ALPHA Solder and Flux R&D Kit. For experimental work that can't be done with standard, tin-lead solders.

Solve soldering problems. Speed research and development. Use the new ALPHA Solder and Flux R&D Kit. Includes 16 types of fluxes, solder paste and flux remover, 11 different solid wire and flux-filled solders and 3 foil solders for preforms. All in an easy-to-carry, wooden case. Includes built-in guide charts. *Write today!*

When dependability counts! **alpha metals** INC.
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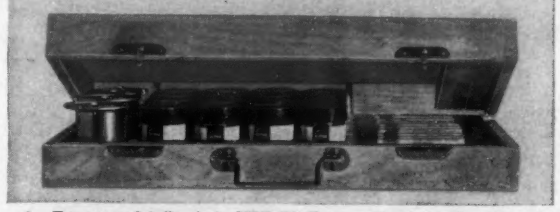
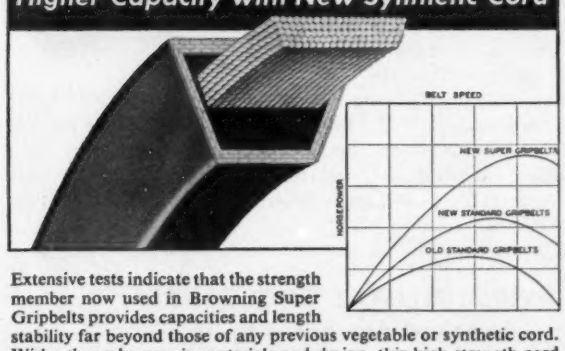
Other ALPHA products:
Core and Solid Wire Solders • Fluxes • Solder Preforms • High Purity Metals.



▲ For more details circle **NED-18 F** on enclosed inquiry slip ▲

Browning SUPER GRIPBELTS
Higher Capacity with New Synthetic Cord



Extensive tests indicate that the strength member now used in Browning Super Gripbelts provides capacities and length stability far beyond those of any previous vegetable or synthetic cord. With other advances in materials and design, this high strength cord improves performance and obsoletes former ratings. Advantages:

- Capacities up to 2¼ times previous standard Gripbelts
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- Lower costs for both original equipment and maintenance
- Standard size sheaves and belts cover full hp range
- Available NOW from distributor stocks, coast to coast

Browning *Standard* Gripbelts have been increased in similar proportion, to today's realistic ratings as indicated in the chart. For information on both Standard and Super Gripbelts, ask your Browning distributor. Or write **Browning Manufacturing Company, Maysville, Kentucky.**

Browning POWER TRANSMISSION EQUIPMENT

▲ For more details circle **NED-19 F** on enclosed inquiry slip ▲

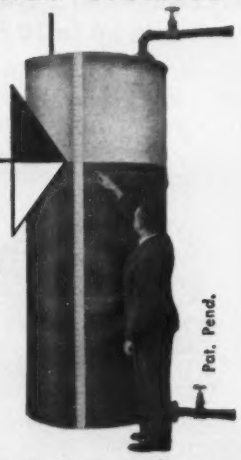
REINFORCED INERT PLASTIC J & H TANKS

FOR ALL CORROSIVES
AND DISTILLED WATER STORAGE

Better than stainless at half the cost!

VISIBLE LEVEL

UNFAILING INVENTORY & BATCHING GAUGE



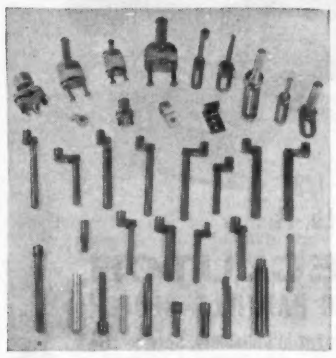
- √ Standard 110 to 4,000 gal. sizes mass produced for immediate delivery
- √ Horizontal or vertical
- √ Round or special shapes
- √ Excellent translucency
- √ One-piece, leakproof
- √ Sanitary, glass-smooth
- √ Non-contaminating
- √ Fully guaranteed

Used by 100 largest chemical, drug, food, tanning, paper, textile plants. Any size or special shape available; select from many standard models and save money. Outlet sizes and locations to order. Write for bulletin giving sizes, specs and *prices.*

JONES & HUNT INC. 104 Emerson Ave., Gloucester, Mass.

▲ For more details circle **NED-20 F** on enclosed inquiry slip ▲

UNIVERSAL MOUNTING BRACKETS
fit Carter guides to any band saw machine



Any band saw machine can now be fitted with Carter band saw guides for safe, trouble-free operation at any speed or load. A new line of mounting brackets contains models for any machine, including upper mountings for use where space between post and blade is extremely limited and lower mountings for machines with eccentric bushings or offset mounting holes. The new brackets permit ready replacement of any old style #2, #1, #0, #00 or three-roller type guide with new Carter GUIDALL "400" or MICRO-PRECISION Guides. Catalog and prices available on request to the company. **Carter Products Company, Inc.,** 421 Helmer Bldg., Grand Rapids 2, Michigan.

Advt.

▲ For more details circle **NED-21 F** on enclosed inquiry slip ▲

Cut flat metal shapes quickly, economically with Campbell Nibbling Machines

• Campbell Nibblers cut *any* shape 40 to 60 times faster than drilling or filing • both inside and outside cuts • no distortion, fractures or burr • little or no finishing required • low-cost "throw-away" punch and die • capacities 3/32"-1/2" mild steel, 3/16"-1/4" alloy steel—sheet sizes to 72"

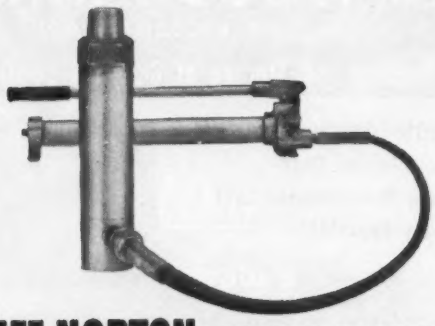
WRITE FOR CATALOG describing 7 models of Campbell Nibblers

CAMPBELL NIBBLERS ACCO

Wilson Mechanical Instrument Division
American Chain & Cable Company, Inc.
Dept. 930, 230 Park Avenue, New York 17, N. Y.

▲ For more details circle **NED-22 F** on enclosed inquiry slip ▲

VERSATILE POWER PACKAGE



DUFF-NORTON RAM-PAC®

HYDRAULIC RAMS AND PUMPS

The Duff-Norton Ram-Pac line provides a versatile source of power to apply from 10 to 100 tons of force in any direction—with little effort.

The twelve rams may be used with the hand or power pumps as portable sources of power and for permanent installation in hydraulic jigs, fixtures and presses.

The Ram-Pac line has five pumps—two hand, one air-hydraulic, one electric and one gasoline. Attachment units and accessories are available. For details ask your distributor or write for Bulletin AD-90—N.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

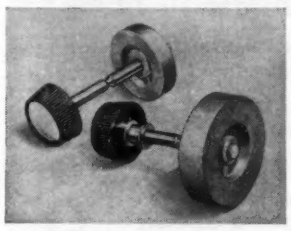
▲ For more details circle **NED-23 F** on enclosed inquiry slip ▲

VACUUM CLEANER
reaches difficult overhead areas

Standing on the floor, operator of this 4-Star industrial vacuum cleaner can reach overhead light fixtures, pipes, and heating fixtures. Cleaner combines wet and dry pickup and converts to disposable inside bag operation. Intake and blower are both in the head. Four models are offered. • **General Floorcraft, Inc.,** 3630 Rombouts Ave., Bronx 66, N. Y.

▲ For more details circle **NED-24 F** on enclosed inquiry slip ▲

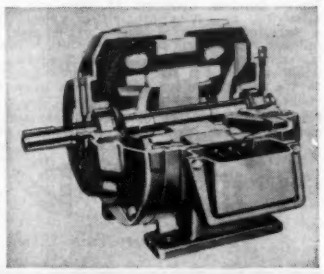
SMALL FLYWHEEL
slips on knurled instrument shafts



"Heavy" feel for precise, accurate knob control of communications and other types of equipment is provided by this reinforced lead alloy flywheel. It slips over the knurled shaft of tuner or other knobs and holds with a press fit. Integral diecast flywheel on a shaft can also be obtained. • **Staver Co.,** 47-49 N. Saxon Ave., Bay Shore, L. I., N. Y.

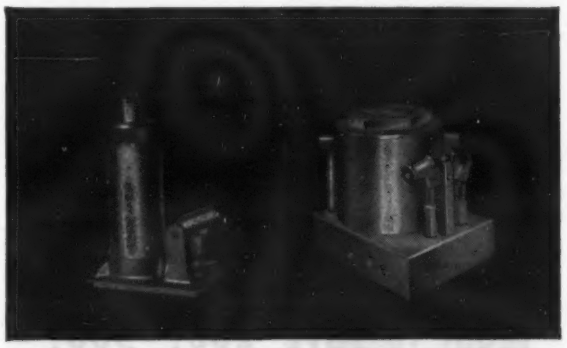
▲ For more details circle **NED-25 F** on enclosed inquiry slip ▲

WEATHERPROOF MOTORS
in 1 through 125-hp ratings



Duty Master weatherproof open alternating-current motors are currently available in frames 180 through 445U in all standard speeds and voltages. Rated 1 to 125 hp, they feature epoxy encapsulated insulation for resistance to moisture, oil, dust, chemicals, acids, and alkalies. Bearings, exposed metal surfaces, hardware, and mechanical parts are also protected from elements and contaminating atmospheres. Additional features include cast iron frame and gasketed conduit box, Metermatic lubrication or deep-groove double-shielded ball bearings, and a neoprene slinger on pulley and shaft cap on other end of shaft to prevent entry of moisture and dirt. • **Reliance Electric & Engineering Co.,** 24701 Euclid Ave., Cleveland 17, Ohio.

▲ For more details circle **NED-26 F** on enclosed inquiry slip ▲



TWELVE EASY WAYS TO LIFT FROM 3 TO 100 TONS...
USE DUFF-NORTON HYDRAULIC JACKS

Designed for ease of operation this rugged, dependable line of Duff-Norton hydraulic jacks gives you rapid rise with minimum effort. Twelve models in 10 different capacities ranging from 3 to 100 tons meet the lifting requirements of all types of industry.

Duff-Norton Hy-Power Hydraulic Jacks are stocked by your distributor. For quick delivery call him the next time you need a jack, or write for a copy of Bulletin AD-16-n to obtain complete details and specifications.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle **NED-27 F** on enclosed inquiry slip ▲

Measure **TENSILE WEIGHT · TORQUE COMPRESSION** *–anywhere!*

with a portable
Dillon Dynamometer

- 13 CAPACITIES: 0-500, 0-1000, 0-2500, 0-3500, 0-5000, 0-10M, 0-15M, 0-20M, 0-30M, 0-40M, 0-50M and 0-100M pounds.
- Choice of dial sizes: 5" or 10" diameter.
- Equipped with attachment shackles and pins.
- Dial protected by shatter-proof crystal.
- Will withstand accidental overloads.
- Has max. pointer to register peak loads.
- Extremely compact. Requires little headroom.
- Lightweight yet rugged. Easy to handle.

YOURS FREE! Profusely illustrated catalog showing applications and prices. Write today!

W. C. Dillon & COMPANY, INC.
14578NE Keswick Street
Van Nuys 1, California
D-27

▲ For more details circle **NED-28 F** on enclosed inquiry slip ▲

NOW!
Branded for lifetime identification

HOW IT'S DONE: The mark is embossed onto, not stamped into, the chain.

CHAIN BUYERS & USERS—Now you can be sure of the make of chain you are getting and of the grade (strength) of the chain you are using...a definite safety advantage. Available on Inswell Proof Coil, BBB, High Test and the 1/2" and smaller sizes of Herc-Alloy chain.

SPECIFY "CM" CHAIN

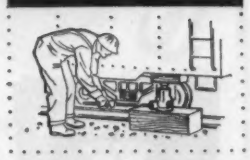
CM CHAIN

COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
Regional Offices: NEW YORK
CHICAGO • CLEVELAND
SAN FRANCISCO • LOS ANGELES

In Canada: McKinnon Columbus Chain Limited, St. Catharines, Ont.

▲ For more details circle **NED-29 F** on enclosed inquiry slip ▲

200,000 Pounds Of Lifting Power In a 98 Pound Package



The 100 ton capacity Duff-Norton Aluminum Screw Jack weighs only 98 pounds. It is easier to handle and spot than any other type of jack of the same capacity.

Maintenance is virtually eliminated by the rugged construction—aluminum alloy housing and base—heat-treated steel lifting screw—sealed-in lifetime lubrication. These jacks withstand hard usage in any weather. It is impossible for them to creep—will support load indefinitely. They can be used in any position—have no fluid to leak—no air to lock.

Duff-Norton Screw Jacks are available in 25, 35, 50 and 100 ton capacities in aluminum—in 15, 25, 35 and 50 ton capacities in malleable iron. For details ask your distributor or write for Bulletin AD-12a.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle **NED-30 F** on enclosed inquiry slip ▲

METARAYS DON'T BUST!

Maybe there's a better word . . . but none says it better. If you're using glass infrared lamps, and have a high breakage rate, here's the answer. Chromalox Metarays have unbreakable, metal-sheathed elements. Maintenance is all but eliminated. Dust, dirt, and paint dropped from parts in process are burned off by the element. Rated 120 volts, 375 to 1200 watts, Metarays create no glare . . . can be operated by automatic or manual controls.

Next time you break a glass infrared lamp, replace it with a Metaray . . . it won't bust. Write today for literature and prices.

CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

▲ For more details circle NED-31 F on enclosed inquiry slip ▲

EYES RIGHT™

GOGGLE CLEANER AND ANTI-FOG WITH CONTROLLED SURFACE TENSION

- gives complete penetration and dispersion
- assures total cleaning power
- leaves crystal-clear film
- long-lasting residual action fights fog

Controlled surface tension in combination with powerful cleaning and anti-foggant agents give EYES RIGHT total cleaning power.

The wider dispersion of EYES RIGHT enables it to thoroughly penetrate every corner and crevice of an entire surface area. Goggles, windshields, windows, lenses —glass or plastic—are more completely cleaned. And stay clean longer. EYES RIGHT leaves a long-lasting residual film that prevents fogging even under the most difficult conditions.

Workers appreciate . . . safety and efficiency demand . . . the clearer vision of EYES RIGHT. All polyethylene packaged for easier handling, shipping, safer storing . . . won't break or shatter. Write for a free demonstration and name of dealer nearest you.

EYES RIGHT self-dispensing, key-locked cabinet of sturdy steel at left. At right, 3½ oz. squeeze bottle . . . ideal for personal use at bench, desk or in the field.

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A few key distribution areas are still open for EYES RIGHT. For information, write:

INTERNATIONAL LATEX CORPORATION
INDUSTRIAL DIVISION/EMPIRE STATE BUILDING, N.Y., N.Y.

▲ For more details circle NED-32 F on enclosed inquiry slip ▲

NEW EQUIPMENT DIGEST

A PENTON PUBLICATION

PENTON BUILDING, CLEVELAND 13, OHIO • MAin 1-8260

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Silicones for Electronics

Dow Corning Corp.—How various physical forms of silicones contribute to reliability, miniaturization, modularization, and environmental protection in electronics is explained in 12-page Engineer's Guide 10-126. Containing engineering data and processing information, handbook describes typical applications for silicones in every area of use—from satellites to seismographic instruments and from computers to servo motors.

▲ For more details circle NED-33 F on enclosed inquiry slip ▲

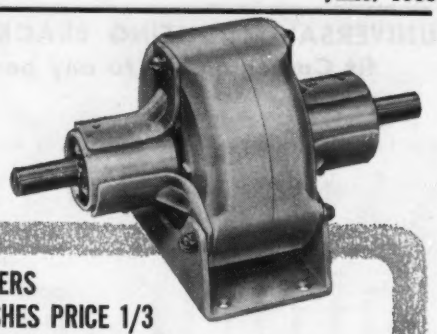
Want to save $200? $500? $1000 on conveyor costs?

Like scores of other firms, *you* can make major savings by designing and installing your own Conveyor System from Logan ADAPTO UNITS. They are *stock parts*, Logan-engineered to work together efficiently. A standardized conveyor assembled from Adapto Units can be quoted quickly, shipped promptly. Write for this free booklet.

LOGAN CO., 215 CABEL ST., LOUISVILLE 6, KY.

Logan Conveyors

▲ For more details circle NED-34 F on enclosed inquiry slip ▲



VICKERS SLASHES PRICE 1/3 on the New 10 Lb.-Ft.

MAGNECLUTCH®

DRY MAGNETIC PARTICLE CLUTCH

Substantial Improvement in Reliability, Service Life

This new low-cost, lightweight Magneclutch retains and improves all the outstanding characteristics of the older model: no wear on torque transmitting surfaces, smooth operation, torque at zero slip, etc. Larger size Magneclutches axailable to 200 lb.-ft., water or air cooled.

Watch for Announcement of New 5 lb.-ft. Magneclutch | *Write for New Bulletin 6106-5 on Vickers 10 lb.-ft. Magneclutch*

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
ELECTRIC PRODUCTS DIVISION
1813 LOCUST STREET / SAINT LOUIS 3, MISSOURI

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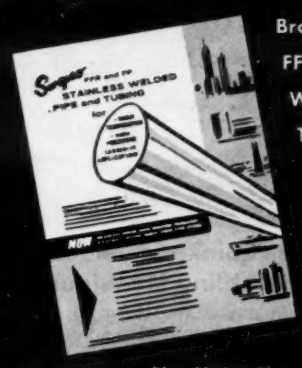
Free!



Brochure on the new FFR and FF Stainless Welded Pipe and Tubing for High Temperature, High Pressure and Corrosive Applications.

The Major Manufacturer of Welded Large Diameter Pipe and Tubing.

Swepco TUBE CORPORATION
ONE CLIFTON BOULEVARD
CLIFTON, NEW JERSEY

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modern WOOD TANKS

(ROUND OR RECTANGULAR)
for Handling and Storage of Chemical Solutions

NON-CORROSIVE
- Low Initial Cost
- Low Maintenance Cost
- Easy Erection

Wood has stood the test of time. It has no superior for many industrial uses because it is highly resistant to decay, to acid and chemical solutions, and in addition, has high insulating properties. These factors make wood the ideal material for tank building.

PLASTIC LININGS IN WOOD TANKS
Allow use of much stronger Chemical solutions than possible before. The new Polycel Tank offers big advantages over high priced alloys.

Write for Bulletin 59 covering industrial tanks and chemical plant applications.

WENDNAGEL & CO., INC.
614 W. Cermak Road Chicago 16, Illinois

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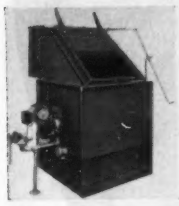
INDUSTRIAL INCINERATORS
—Save Hauling Charges
—Pay for Themselves in 6 to 12 Months!



Model C-2 with Incinerator Burner

Save more than the price of a Winnen Incinerator! Eliminate those monthly charges for hauling refuse.

Avoid fire hazards and reduce your fire insurance premiums. Why take chances of spontaneous combustion, carelessly tossed cigarettes or matches?

Winnen heavy-duty incinerators burn dry or wet-and-dry refuse. Your choice of fuels. No fuel needed to burn refuse 80% dry. Feed door is oversized for quick loading of cartons and crates.

Winnen incinerators can be installed indoors or out, take up little space. Combustion chamber is lined with heavy refractory material to withstand temperatures exceeding 2000° F. Shell is heavy 10-gauge steel. Optional equipment is available, such as prefab chimney, automatic fuel control, etc.

Available in a wide range of "standard" styles and sizes. Custom Wincinators are built in *any* size, on order.

Most standard models are available, on order, without refractory lining. Saves you 50% to 80% on shipping charges. Your local mason can line with fire-brick following our instructions.

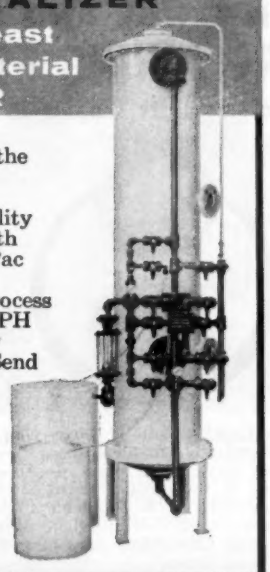
All Wincinators have secondary combustion chambers. When operated as directed, they give trouble-free, smokeless-odorless service. Fully guaranteed one year.

Models C and C-2 are shipped knocked down with complete, easy-to-follow directions for installing. Any handyman can set up a Wincinator. No mason needed. Easy to relocate later if you wish.

Also available is a complete line of Prefab Chimneys. Send for further information. Write today to: **Winnen Incinerator Co.,** 932 Broadway, Bedford 10, Ohio. *Advt.*

▲ For more details circle **NED-38 F** on enclosed inquiry slip ▲

NEW COCHRANE UNI-PAC* PACKAGED DEMINERALIZER
controls your least uniform raw material ... WATER



Are seasonal changes in the mineral content of your water supply a costly headache? Maintain quality standards year round with this *new* Cochrane Uni-Pac Packaged demineralizer, designed expressly for process systems. Sizes to 3500 GPH factory assembled, easily installed and operated. Send for Publication 5819.

COCHRANE CORPORATION WATER CONDITIONING ENGINEERS SINCE 1863 PHILADELPHIA

*Trademark

Cochrane CORPORATION
3143 N. 17th Street, Phila. 32, Pa.
In Canada: Cochrane Water Conditioning Ltd. • Toronto
Representatives in 43 principal U.S. and foreign cities.

▲ For more details circle **NED-39 F** on enclosed inquiry slip ▲

One DETECTO
Speed Scale does the work of two operators

Streamline your plant operation with this trouble-free, simplified, highly sensitive scale. The slightest discrepancy of over-weight or under-weight is instantly revealed by DETECTO'S over-under indicator. Write for information on full line of industrial weighing equipment from 1/100 oz. to 100 ton:

Detecto Scales, Inc.
Dept. D 1, 540 Park Ave., Brooklyn 5, N.Y.

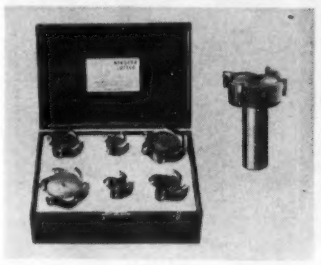
▲ For more details circle **NED-40 F** on enclosed inquiry slip ▲

TROLLEY HAND HOISTS
in ½ to 12-ton capacities

A flexible trolley mounting that adjusts to almost any size or type of monorail beam is combined with a hand hoist to form the compact, low headroom Load King trolley hand hoist. Four Thru-Hard ball tread wheels grip either curved or flat flange I-beams for easy rolling motion. Trolley wheels are equipped with ball bearings in ½ to 2-ton models and with tapered roller bearings in up to 12-ton capacities. Larger models also have aluminum casings for easier maneuverability along the beam. Hoisting mechanism with minimum of working parts has up to 95 per cent lifting efficiency. • **Yale & Towne Mfg. Co.,** Yale Materials Handling Div., 11000 Roosevelt Blvd., Philadelphia 15, Pa.

▲ For more details circle **NED-41 F** on enclosed inquiry slip ▲

CARBIDE FACE MILLS
set of six offered in cabinet

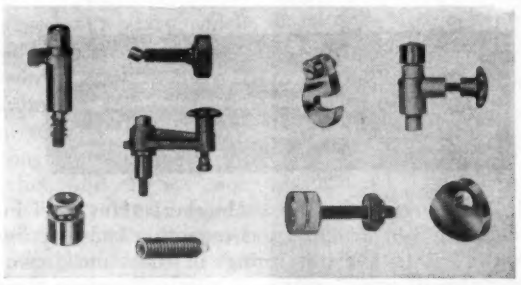


Two each of 1½, 2, and 2½-in. diameter carbide face mills with ¾-in. integral shanks are packed in a protective wood cabinet with a styrene cushion-liner. The Sixpac kit provides versatile cutting characteristics for machining aluminum, steel, cast iron, stainless steel, and plastics. Six cutters in cabinet sell for $115. • **Bollier-Damerell Inc.,** Niagara Cutter Div., 330 Niagara St., North Tonawanda, N. Y.

▲ For more details circle **NED-42 F** on enclosed inquiry slip ▲

JIG & FIXTURE COMPONENTS
enlarge line to 1000 parts

Clamp assemblies, fixture details, spring plungers, torque screws, and chuck jaw blanks have been added to the Universal line of jig and fixture components

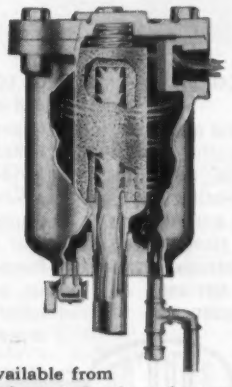


and clamp assemblies. They complement the company's line of toolroom accessories. • **Universal Engineering Co.,** Frankenmuth, Mich.

▲ For more details circle **NED-43 F** on enclosed inquiry slip ▲

EXCESSIVE AIR TOOL MAINTENANCE?

The majority of air tool down time and maintenance cost can be traced directly to dirty compressed air. Rust, pipe scale and other foreign materials are picked up from the air system by the moving air stream. This entrained debris is a sure source of trouble if allowed to enter your air operated equipment.



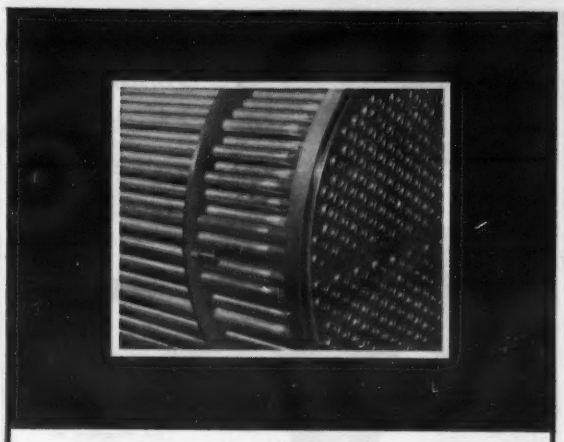
An Adams Poro-Stone filter is scientifically designed for maximum separating efficiency. Centrifugal forces trap entrained solids and liquids in the exclusive interior shell slots. They then drain into the lower liquid chamber for periodic removal. The gas then is completely cleaned as it diffuses thru the minute voids of the Poro-Stone element.

Throughout their operating range, they require only ½ PSI pressure drop—a negligible reduction from line pressure. Virtually no maintenance or servicing is required—assuring continued cost cutting, trouble free air.

Adams Poro-Stone air filters are available from stock in a wide range of sizes. Find out today how they can eliminate your compressed air problems. Write for Bulletin 117.

R. P. ADAMS CO., INC.
227 East Park Drive • Buffalo 17, New York

▲ For more details circle **NED-44 F** on enclosed inquiry slip ▲

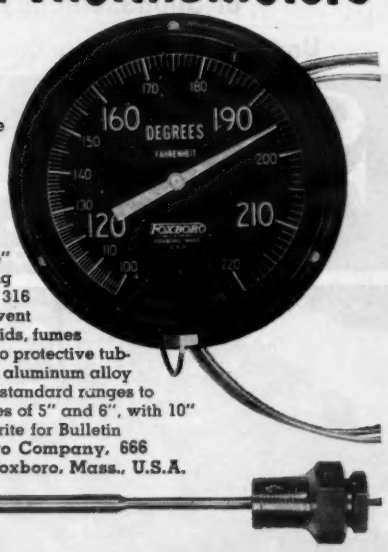


Transferring Heat?

See Page 97

▲ For more details circle **NED-45 F** on enclosed inquiry slip ▲

"Lifetime" Dial Thermometers



You're always sure of accurate temperature readings with this easy-to-read Foxboro "Lifetime" Dial Thermometer. Welded "one-piece" bulb and connecting capillary tubing of 316 Stainless Steel prevent corrosion from liquids, fumes or vapors. Needs no protective tubing. Tightly sealed aluminum alloy case. Available in standard ranges to 1000°F. — dial sizes of 5" and 6", with 10" and 12" scales. Write for Bulletin 14-11. The Foxboro Company, 666 Neponset Ave., Foxboro, Mass., U.S.A.

FOXBORO Reg. U.S. Pat. Off. DIAL THERMOMETERS

▲ For more details circle **NED-46 F** on enclosed inquiry slip ▲

New . . . Revolutionary BLIND FASTENER with THREADS

MOLLY JACK NUT

ACTUAL SIZE OF SMALLEST JACK NUT

The ONLY Blind Fastener Which Grips ANY Material From 0" to 3/16" Thick

MOLLY JACK NUT IS EASY TO INSTALL

1. Insert Jack Nut into hole. Needs only ⅜" expansion space.
2. Run in screw to collapse spider anchor backing by exerting pull on threads.
3. Jack Nut now is installed and ready to receive attachment screw.

Ask Your Industrial Distributor or Write for FREE Brochure

MOLLY CORP.
230C N. 5th St., Reading, Pa.

▲ For more details circle **NED-47 F** on enclosed inquiry slip ▲

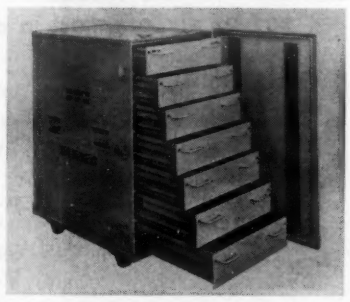
▲ For more details circle NED-48 F on enclosed inquiry slip ▲

SONIC ALARM
operates relay at preset level

Product testing for noise level, intrusion alarms, statistical data gathering, and process monitoring and control are applications for the Model 160 Sonalarm. It operates normally-open or normally-closed relay contacts at a preset sound or vibration level. Standard model has a 70 to 100 db sound pressure level, and a differential of 2 db. An electronic delay prevents tripping on single impact. Instrument has an audio output jack for earphone or power amplifier. • **H. H. Scott, Inc.**, Instrument Div., 111 Powder Mill Rd., Maynard, Mass.

▲ For more details circle NED-50 F on enclosed inquiry slip ▲

ELECTRONIC PARTS CABINET
360-lb unit has volume of 32 cu ft

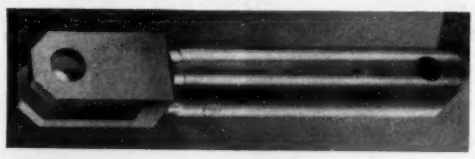


Drawers of this sophisticated transit cabinet are easily removed and re-inserted when not in use. Cabinet itself is easily portable and is designed to provide storage and protection for electronic components which can be mounted in each drawer. Bond-Alply construction consists of a plywood core with an aluminum skin bonded on each side. Illustrated 360-lb cabinet has a 24-cu ft volume and costs $850. • **White Division, Inc.**, Palmer Road, Palmer, Mass.

▲ For more details circle NED-51 F on enclosed inquiry slip ▲

TENSION LIQUID SPRING
provides end force of 800 lb

Using the liquid compressibility principle, Model T823 tension liquid spring can be preloaded up to 300 lb with an end force of 800 lb. It will absorb up to 1000



in.-lb of energy as a shock absorber. Having 1-in. diameter by 3-in. length (plus mounting ends) spring is equivalent to five coil springs of the same dimensions. Use of liquid springs in dies will reduce their size and cost. • **Taylor Devices, Inc.**, 188 Main St., North Tonawanda, N. Y.

▲ For more details circle NED-52 F on enclosed inquiry slip ▲

For Oily Abrasive Stampings—Scrap—Heavy Oily Abrasive Assemblies or Subassemblies

Under the Most Severe Conditions

Scandura BELTING will do the job best!

Check THESE REASONS WHY!

OIL RESISTANT—Scandura is unaffected by mineral oils. Can't swell. No plies to separate. Perfect for oily, greasy parts!

ABRASION RESISTANT—Polyvinyl cover resists abrasion amazingly—proves outstanding wearability on roughest, toughest jobs.

FLEXIBLE—Scandura flexes easily around small-diameter pulleys without sacrificing strength or wear.

FIRE RESISTANT—Certified fire resistant, Scandura is safe to operate in hazardous locations.

SOLID-WOVEN CONSTRUCTION—Interwoven carcass prevents ply separation, affords high fastening and tensile strength, resists stretch.

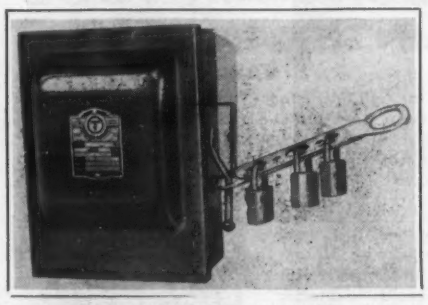
PVC IMPACT RESISTANT CUSHION—Polyvinyl chloride cover resists impact, is proof against moisture, dilute acids, alkalis, etc.

Scandura INC.

WRITE FOR THE FACTS TODAY!
North Tryon St. at Keswick Avenue
(P.O. Box 949) Charlotte 1, North Carolina

▲ For more details circle NED-49 F on enclosed inquiry slip ▲

FOR SAFETY'S SAKE... KEEP POWER UNDER CONTROL



IPCO SAFETY MULTIPLE LOCKOUT eliminates plant injuries and costly equipment damage . . . from failure to lock out switches and fuse boxes. Prevents one workman from accidentally throwing switch when others are working on same equipment. A simple protective device with offset jaws that interlock around switch levers. Punched with 3/8" holes to handle up to *six* padlocks. Cadmium plated cold rolled steel construction for extra strength. A *proven solution* to a frequent problem.

9-1007

DEPEND ON IPCO PROTECTIVE HEADWEAR, APPAREL, EYE PROTECTION, RESPIRATORY EQUIPMENT, AND ACCESSORY ITEMS FOR COMPLETE SAFETY PROGRAMMING. WRITE FOR ADDITIONAL INFORMATION

IPCO Reg. U.S. Pat. Off.
SAFETY PRODUCTS
INDUSTRIAL PRODUCTS COMPANY
2807 N. Fourth Street • Philadelphia 33, Pennsylvania

▲ For more details circle NED-53 F on enclosed inquiry slip ▲

MAGNETIC or RF SHIELDED Zippertubing®

Jackets and shields cables in a single operation!

Shielding and jacketing are applied in a single operation at labor savings up to 50% and material costs are reduced at least 20%. Coverage is 100% as against the 85% coverage provided with copper braid. No special equipment is required. One man can do the job!

Pat. and Pat. App. For

During WESCON visit us at Booth 2320.

Zippertubing® Meets Mil Specs

If you design or work with electronic cables, it will pay you to investigate Zippertubing. Write today for free literature and name of nearest field representative.

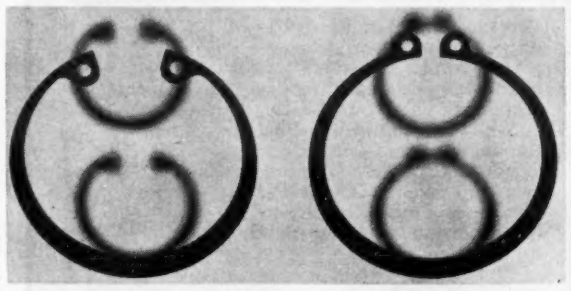
THE Zippertubing® CO.
752 S. San Pedro St., Los Angeles 14, Calif.

▲ For more details circle NED-54 F on enclosed inquiry slip ▲

Cir-Clip

INTERNAL AND EXTERNAL RETAINING RINGS

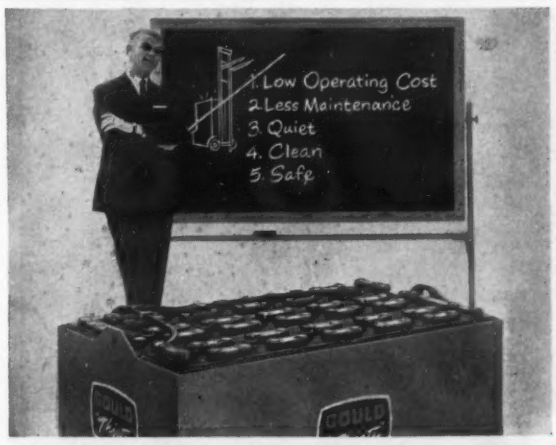
to fit shafts ranging in size from ½" to 8"



1—Easy to install; large plier holes. 2—All contact surfaces ground; no round corners. 3—No extra charge for protective rust preventative finish. 4—All standard sizes available. 5—Each ring is individually tested after manufacture to insure proper ring tension. 6—Available in both inch dimension and millimeter sizes. 7—Immediate shipment can be made from our Kansas City (Mo.) warehouse, or by distributors throughout the United States.

Cir-Clips inc.
350 PETROLEUM CLUB BUILDING
110 16th ST., DENVER 2, COLORADO

▲ For more details circle NED-55 F on enclosed inquiry slip ▲



Why users prefer electric trucks powered by Gould Batteries

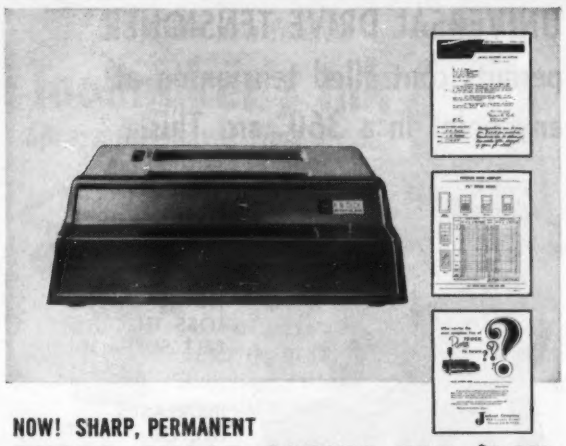
Lower Operating Costs—electric trucks save on maintenance, power, depreciation; their overall cost per ton-mile is less than half of other trucks. *Less Maintenance*—electric trucks have simpler construction, less moving parts. *Quiet, Clean, and Safe*—electric trucks reduce noise, no exhaust, can be used in dangerous atmospheres.

Electric truck users generally agree, too, on Gould Batteries for longer life. With the vital new Silconic Plate, Gould Batteries offer up to 25% longer life.

Write for "Why We Use Battery-Electric Industrial Trucks." Gould-National Batteries, Inc., Trenton, New Jersey. In Canada, write to Gould-National Batteries of Canada, Ltd., 1819 Yonge Street, Toronto, Ontario.

More Power to you from **GOULD**

▲ For more details circle NED-56 F on enclosed inquiry slip ▲



NOW! SHARP, PERMANENT

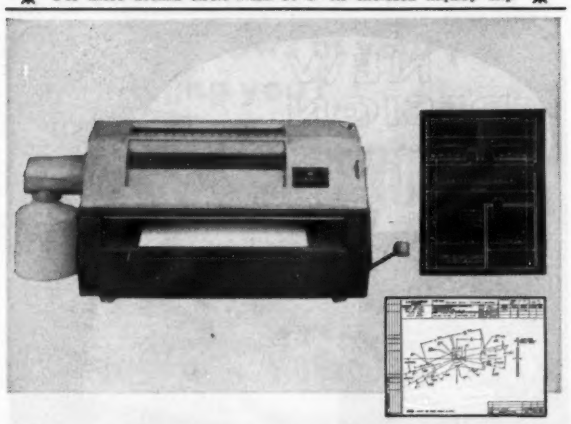
PHOTO-EXACT COPIES FOR $99.50

For just $99.50—quick copies of any printed, duplicated, typed or written document. A. B. Dick Model 101 Photocopier makes clear, black-on-white copies that won't fade from heat, light or age. Reduces paperwork costs, prevents embarrassing errors, steps up efficiency. At $99.50, you can afford one in every department—purchasing, production, accounting, receiving. Write for new brochure, "QUICK COPIES."

Price shown is manufacturer's suggested retail price, subject to change without notice

A·B·DICK DUPLICATING PRODUCTS

▲ For more details circle NED-57 F on enclosed inquiry slip ▲



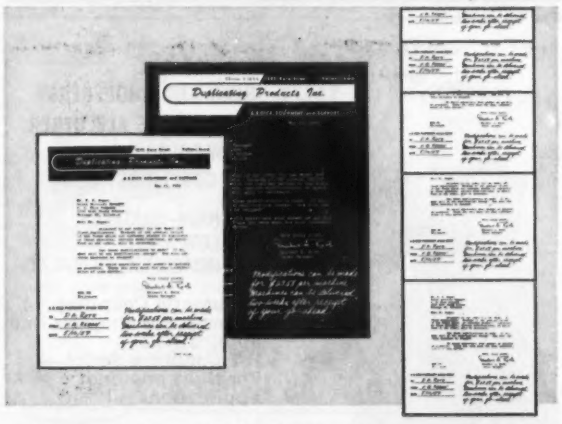
BLUEPRINTS, DIAZO PRINTS—THIS MACHINE MAKES

COPIES OF ANYTHING

If you can put it down on paper, you can pick it up with the A. B. Dick Model 110 Photocopier. Originals can be on opaque, two-sided or transparent paper—white or colored, heavy cardboard, individual sheets or pages bound in books. It takes only seconds, costs only pennies. Copies are permanent—often clearer than the original. Write for color brochure.

A·B·DICK DUPLICATING PRODUCTS

▲ For more details circle NED-58 F on enclosed inquiry slip ▲



NOW—WITH JUST ONE NEGATIVE—MAKE

MULTIPLE PHOTOCOPIES

Cut your cost-per-photocopy with A. B. Dick Multi-Copy papers. Negative paper has special coating on heavy base stock, permits you to make several positive copies with one exposure. No special solutions, machine attachments or extra units required. Positive and negative Multi-Copy papers available in 8½" x 11" and 8½" x 14.". Write for free samples.

A·B·DICK DUPLICATING PRODUCTS

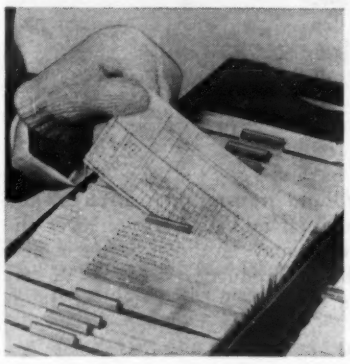
▲ For more details circle NED-59 F on enclosed inquiry slip ▲

C-FLANGE GEARMOTOR
motor and reducer are separate

Capacities from 1/12 to 2 hp and reductions in increments of five from 5:1 to 30:1 and in increments of ten from 30:1 to 60:1 are available in the Eberhardt - Denver line of C-flange gearmotors. Separate motor and reducer are flange connected. The complete assembly or the reducer alone can be furnished, the latter for application on standard NEMA motor. When drive conditions change, either motor or reducer may be changed. • **Morse Chain Co.**, S. Aurora Street, Ithaca, N. Y.

▲ For more details circle NED-60 F on enclosed inquiry slip ▲

MAGNETIC TAB CARDS
fan out automatically in file trays



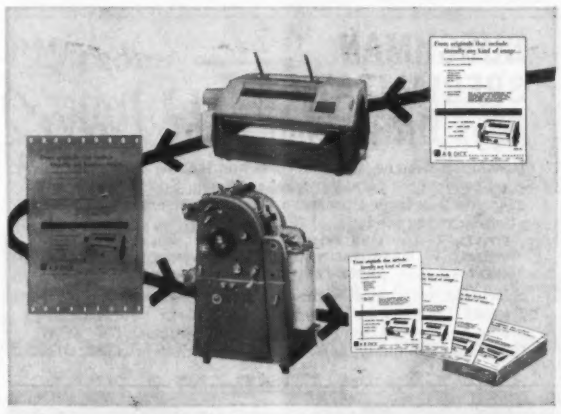
Permanent built-in magnetic action causes Magne-Tab visible tab cards to repel each other at the touch of a finger. Twenty or more cards fan out automatically in the file trays at any point of reference, exposing the top edges with sufficient space between them for easy removal, even with mittens as shown in the photo. Cards are thus selected visually without thumbing through them individually. Magne-Tab cards can be used in present automatic sorting and punching machines without modifying equipment. • **Business Efficiency Aids, Inc.**, Magne-Tab Div., 8114 N. Lawndale, Skokie, Ill.

▲ For more details circle NED-61 F on enclosed inquiry slip ▲

CARTON STAPLE REMOVER
tool can be carried in pocket

Ragged staples which could tear hands are easily removed from stitched cartons by the Flash carton staple remover. Small enough to be carried in a pocket, the diecast zinc tool has a steel tip. A slight upward movement of the hand safely pries out the staple. Price is $2.50. • **Flash Mfg. Co.**, 169 Murray St., Newark 5, N. J.

▲ For more details circle NED-62 F on enclosed inquiry slip ▲



WITH AN ALUMINUM TRANSFER OFFSET PLATE—

1000'S OF COPIES IN MINUTES

From original to aluminum offset plate to finished copies in less than 3 minutes! Up to 2000 copies in less than 20 minutes! Just place original and special negative paper into Model 110 Photocopier and expose. Then feed negative and A. B. Dick aluminum transfer offset plate into developer section of machine. 90 seconds to process, and the plate is ready to run offset copies. Write for facts.

A·B·DICK DUPLICATING PRODUCTS

▲ For more details circle NED-63 F on enclosed inquiry slip ▲

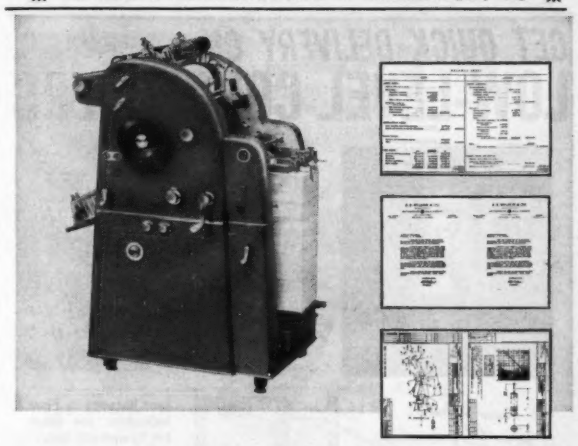
NOW EVERY OFFICE CAN HAVE

OFFSET COPIES AT LOW COST

The prestige and print quality of true offset—at a price so low each plant and local office can have its own. Compact Model 320 Table-Top Offset produces print-like copies of half-tones, line drawings, color work. Work-simplifying features you can't find in any other make of offset duplicator at *any* price. Write for free kit, containing 36 actual samples.

A·B·DICK DUPLICATING PRODUCTS

▲ For more details circle NED-64 F on enclosed inquiry slip ▲



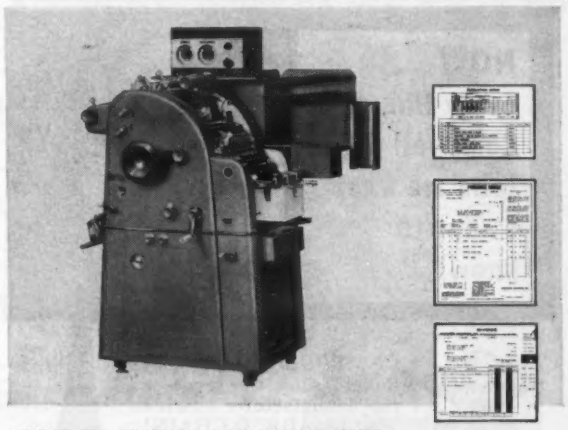
PRODUCES ENGINEERING DRAWINGS OR ANY

OFFSET COPIES UP TO 11" x 17"

A. B. Dick Model 360 has a big 10½" x 16½" image area—clicks off professional-quality copies of engineering drawings and other forms too big for ordinary offset equipment. *Aquamatic Control* assures a perfect run, start to finish. Twelve-roller inking system gives complete ink distribution for solid areas, line work, half-tones. Write for complete information.

A·B·DICK DUPLICATING PRODUCTS

▲ For more details circle NED-65 F on enclosed inquiry slip ▲



SPEED UP SYSTEMS PAPERWORK WITH

COPIES BY AUTOMATION

Specially designed for highly repetitive, short-run paperwork, the A. B. Dick Model 355 offset duplicator is ideal for production orders, sales order-invoice systems, purchase order-receiving systems and many others. Program Control Unit directs operating cycle—eliminates all but two manual operations. Enables one operator to run more than one machine. Write for the full story.

A·B·DICK DUPLICATING PRODUCTS

▲ For more details circle NED-66 F on enclosed inquiry slip ▲

BREATHE EASIER

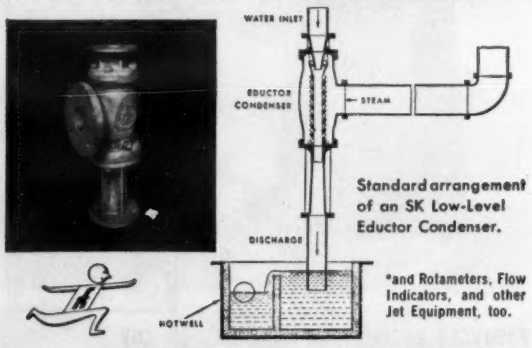
Double filters provide comfortable breathing. Soft rubber face mask gives air-tight fit. Sanitary face cloth protects against dermatitis or chafing. Patented exhalation valve guards against re-breathing stale air.

Cover scientifically designed respirators have been adopted as standard equipment by industries the world over. Free literature on request describing models for every purpose. See your safety equipment supplier or order sample direct. Model shown—only $2.25 postpaid.

H. S. COVER
Dept. 605. South Bend 14, Ind.
"Respirators for Industry Since 1894"

▲ For more details circle NED-71 F on enclosed inquiry slip ▲

GET QUICK DELIVERY ON LOW-LEVEL CONDENSERS*



Standard arrangement of an SK Low-Level Eductor Condenser.

*and Rotameters, Flow Indicators, and other Jet Equipment, too.

As shown, SK Low-Level Eductor Condensers require no barometric leg. Their normal operating pressure is about 26" Hg. However, they can produce vacua of 29" Hg or higher, depending on water temperature, for industrial process operations or for small engines or turbines. Eight sizes offer wide range of capacities.

You get quick delivery on SK Condensers from stock in Cornwells Heights, Pa., in Houston, Texas or in San Francisco, Calif. For full details request Bulletin 5AA-S or contact our main office by phone or TWX.

Schutte and Koerting COMPANY
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.
Phone: MErcury 9-0900 TWX: Cornwells, Pa., 69-"U"
JET APPARATUS • ROTAMETERS • GEAR PUMPS • VALVES • HEAT EXCHANGERS

▲ For more details circle NED-72 F on enclosed inquiry slip ▲

NOW... Every link of Campbell Chain tells me what I want to know!

CAMPBELL CHAIN

CAMPBELL marks every link to show the grade or the manufacturer . . . it's "HALLMARK"® CHAIN!

Yes, only CAMPBELL identifies all the popular welded chain grades with embossed letters on every link!

The Campbell "C" is permanently in relief on every other link . . . your manufacturer identification.

The grade mark appears on alternate links . . . your permanent grade identification.

Write today for complete information about Campbell "HALLMARK" Chain

CAMPBELL CHAIN *Company*
FACTORIES: York, Pa.; West Burlington, Iowa; Union City, Calif.
WAREHOUSES: E. Cambridge, Mass.; Atlanta, Ga.; Dallas, Texas; Chicago, Ill.; Portland, Ore.; Seattle, Wash.; Los Angeles, Calif.

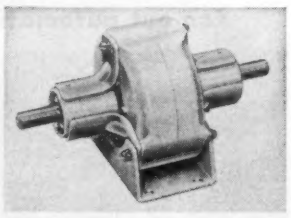
▲ For more details circle NED-73 F on enclosed inquiry slip ▲

METAL-CUTTING CARBON RODS
use electric arc and compressed air

Continuous feed type of operation is possible when cutting metals using Kostkutter carbon rods and an electric arc and compressed air. Each rod has a tapered hole bored in one end and a machined taper at the other. Tapered end of the replacement rod fits into the bored end of the rod in use and is held securely by friction. This design minimizes stub losses and torch damage. The clamp is shifted back onto the replacement rod as the rod in use is consumed. Carbons are electroplated with copper in 12-in. lengths and diameters of 1/2, 5/8, 3/4, and 1 in. • **Speer Carbon Co.**, St. Marys, Pa.

▲ For more details circle NED-74 F on enclosed inquiry slip ▲

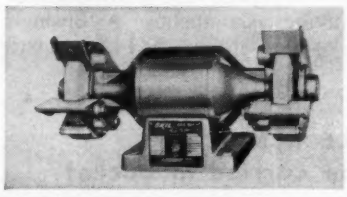
MAGNETIC CLUTCH
low cost, light, 10 lb-ft model



Improved with faster response and longer life, the foot-mounted, dry magnetic particle Magneclutch is available at a one-third reduction in price. The 10 lb-ft model transmits power with 100 per cent efficiency, has no wear points on torque transmitting surfaces, and closely controls acceleration and deceleration over the entire operating range. It may be air or water cooled. A 5 lb-ft unit will be in production soon. • **Vickers Inc.**, Electric Products Div., 1815 Locust St., St. Louis 3, Mo.

▲ For more details circle NED-75 F on enclosed inquiry slip ▲

BENCH GRINDERS
line has 6, 7, 8, and 10-in. models



Five models for wire brushing, buffing, and grinding jobs comprise the Skil line of bench grinders. The 6-in. Model 287 has a dynamically balanced, rapid starting, scaled, lubricated-for-life, 1/3-hp motor. End bell covers and two protective eye shields are included. Similar 6-in. Model 286 does not include eyeshields and end bell covers. Ball bearing 7-in. Model 607 for vibration free, heavy duty service has a 1/2-hp motor. Similar 8-in. Model 614 (illustrated) also has a 1/2-hp motor, plus adjustable spark arrestors and tool rests, removable wheel guards, and heavy duty cast iron construction. Capable of maintaining constant speed under heavy loads, the 10-in. Model 617 for factory, machine, welding, and maintenance shop use has a 1-hp motor. • **Skil Corp.**, 5033 Elston Ave., Chicago 30, Ill.

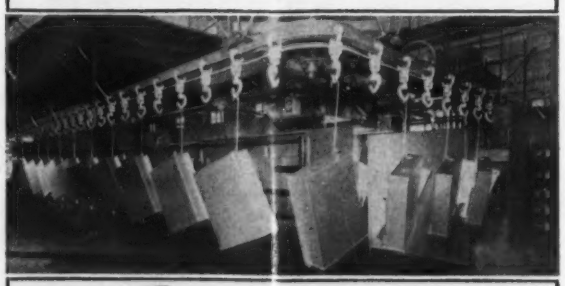
▲ For more details circle NED-76 F on enclosed inquiry slip ▲

BUSCHMAN SPECIALIZATION Pays Off In Your Plant

Buschman designs, manufactures and installs conveyors . . . good conveyors . . . *nothing but conveyors.* Specialists! Whatever you buy from Buschman is experience-engineered to fit your conveyor needs:

ROLLER — LIVE ROLLER — SLAT
WHEEL — OVERHEAD TROLLEY — PUSHER BAR
BELT — TABLE-CABLE — LIVE STORAGE RACKS
ELEVATING EQUIPMENT

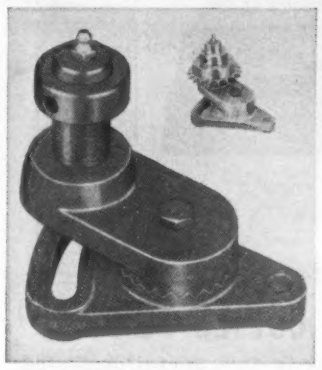
Buschman combines components in systems that effect greatest economy in your handling. Tell us your handling problems; we will send literature, suggestions. The E. W. Buschman Company, 4482 Clifton Ave., Cincinnati 32, Ohio.



Buschman CONVEYORS
Complete Conveyor Systems for all Types of Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities; See Yellow Pages
368

▲ For more details circle NED-77 F on enclosed inquiry slip ▲

UNIVERSAL DRIVE TENSIONER
permits controlled tensioning at any point in a 360° arc. This:



ELIMINATES SHOCK LOADING

ELIMINATES HORSEPOWER LOSS THROUGH BELT SLIPPAGE

INCREASES LIFE OF YOUR EQUIPMENT

The universal drive tensioner is designed to take up slack in chain and belt drives, and in addition can be used as an idler bracket for change gears, etc. A rotating arm and adjusting slot permits vertical and horizontal positioning through a full 360° arc.

The unit comes complete with all necessary mounting bolts and washers. A standard 2" long shaft which is drilled and tapped for and including grease fitting is furnished. Available also are 3" and 4" long shafts for multiple width drives.

BREWER MACHINE & GEAR CO.
1441-43 N. 2nd St. St. Louis 6, Mo.

▲ For more details circle NED-78 F on enclosed inquiry slip ▲

NEW DESIGN

JOB TICKET ENVELOPE
Electronically Heat Sealed Edges

INTRODUCTORY OFFER SENSATIONAL LOW PRICE!
15¢ EACH MINIMUM 100
14¢ EACH 500 OR MORE

FREE TEST SAMPLE FROM

FOB FACTORY • SPECIFY STOCK #JV-3

20th century plastics, inc.
(Formerly known as Pacific Plastics)
407 EAST WASHINGTON BLVD., LOS ANGELES 15, CALIF.
RICHMOND 7-5329

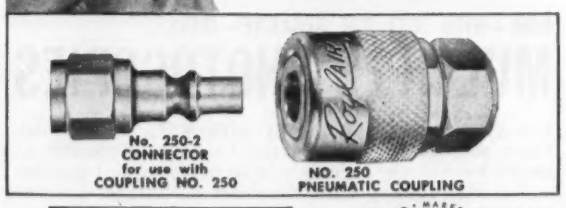
▲ For more details circle NED-79 F on enclosed inquiry slip ▲

Rita Roylyn Says:

"RoylAIR COUPLINGS ARE HEAD AND SHOULDERS ABOVE ALL OTHER LOW-COST COUPLINGS"

- HIGH QUALITY
- LOW COST
- IMMEDIATE DELIVERY

Pneumatic Coupling Series—For shop air line applications
P T Coupling Series—For light pneumatic tool applications



No. 250-2 CONNECTOR for use with COUPLING NO. 250

NO. 250 PNEUMATIC COUPLING

RoylAIR No. 254 BLOW GUN for use with No. 250 PNEUMATIC COUPLING

DESIGNED • MARKETED BY AIRATERRA "THE BEST CONNECTIONS IN THE WORLD"

Write today for your RoylAIR Catalog to:
AIRATERRA, 620 PAULA AVENUE, GLENDALE 1, CALIFORNIA

▲ For more details circle NED-80 F on enclosed inquiry slip ▲

CROWN new formula

Toolmaker's Ink

Sprays On—Saves Time, Work

ALSO IN BULK

Supplied with new soft, smooth-spreading brush in 4 and 8-oz. cans. Also in quarts, 1 and 5 gallons and drums.

Positively Non-Corrosive—Crown Toolmaker's Ink is pigmented, has a firm-gripping "tooth" that adheres to all metals, glass or plastics, yet has no acid added. Guaranteed not to clog spray can or eat away brush shaft, can, or cap. Chrome Blue color is easiest to see. Scribes crisp, clean lines, removes without rubbing, using Crown Toolmaker's Ink Remover. Write now for complete information.

In Spray Can, Quarts, 1 and 5 gallons.

CROWN INDUSTRIAL PRODUCTS COMPANY
WOODSTOCK, ILLINOIS

▲ For more details circle **NED-81 F** on enclosed inquiry slip ▲

Lots of windows in your plant? —Sun killing you?

CROWN GLASS FROSTING

Changes Only the Intensity of Light.

Preserves Daylight Color.

Most Economical Way To Frost Windows

Covers a Lot of Area
Write now for information and prices

CROWN INDUSTRIAL PRODUCTS COMPANY
WOODSTOCK, ILLINOIS

▲ For more details circle **NED-82 F** on enclosed inquiry slip ▲

A new approach to positive lasting rust protection...

Protecting finished metal parts prior to shipment.

Even if not put into service for months, these parts will be safe from rust.

CROWN fortified *LANOLIN*

Rust Inhibitor

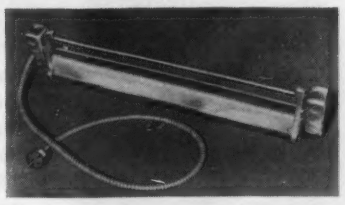
In Spray Cans or Bulk—Crown Fortified Lanolin Rust Inhibitor *absorbs up to 5 times its own weight in water. Thus, it absorbs all air moisture present on metal when it is first applied.* Gives lasting protection from condensation caused by temperature fluctuations.

Needs not be removed from areas to be lubricated, since it is itself a lubricant. Yet it removes readily with standard solvents. Crown Rust Inhibitor does not affect paint, can be sprayed on moving parts. In 6 or 16-oz. spray cans, 1 or 5-gallon containers, or 55-gallon drums. Write for details.

CROWN INDUSTRIAL PRODUCTS COMPANY
WOODSTOCK, ILLINOIS

▲ For more details circle **NED-83 F** on enclosed inquiry slip ▲

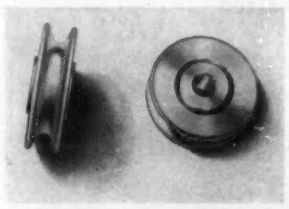
RADIANT HEATER ASSEMBLY
for heating, drying, baking uses



Uses for this far infra-red radiant heater assembly include paint drying, drying parts on belts, baking out metal, ceramic and glass vacuum systems, and comfort heating in exposed locations. It is available for 120, 240, or 440-v operation in over-all lengths from 24 to 84 in. Effective heating lengths range from 18 to 78 in. and wattages from 750 to 3250. Heat source is an alloy sheathed Thermatube in polished aluminum reflector. • **Thermel, Inc.**, 9400 Robinson Rd., Franklin Park, Ill.

▲ For more details circle **NED-84 F** on enclosed inquiry slip ▲

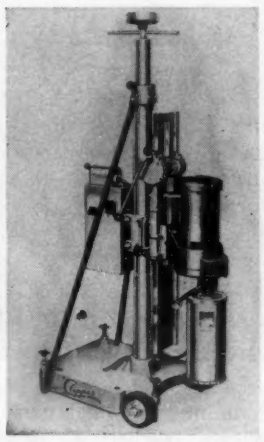
BALL BEARING PULLEYS
for cable control applications



Six standard sizes of low cost ball bearing pulleys are suited for use with up to 1/4-in. diameter rope, wire rope, or cable. Outside diameters of stock sizes range from 7/8 to 2 in. and bores, from 3/16 to 3/8 in. Bearing rings are case hardened, and precision steel balls operate in unground raceways. Cadmium plating gives corrosion resistance. Hardened grooves are tapered and round. • **Syracuse Bearing Co.**, 428 E. Jefferson St., Syracuse, N. Y.

▲ For more details circle **NED-85 F** on enclosed inquiry slip ▲

CONCRETE CORE DRILLS
2, 6 1/2, and 14-in. hole models



Power to bit of this concrete core drill is transmitted through a gear reducer from an induction type, overload protected motor with direct drive to spindle. Units will drill through masonry, stone, refractories, concrete, and steel-reinforced concrete without noise, dust, or damage to surrounding areas. Head rotates 360 degrees on 3-in. tublar steel column for drilling at any angle. Optimum drill pressure and operating speed is shown at all times on load indicator. Model D-30 drills holes up to 14 in.; Model D-20, up to 6 1/2 in.; and hand held Model DH-20, holes from 1/2 to 2 in. Model D-20 will convert at low cost to the hand-held model. • **Clipper Mfg. Co.**, Suite 205, 2800 Warwick, Kansas City 8, Mo.

▲ For more details circle **NED-86 F** on enclosed inquiry slip ▲

CROWN

Spray LUBRICANTS

EACH IS THE FINEST OF ITS KIND
they get where brushes can't reach!

PENETRATING AND CLEANING OIL—Finest on the market! Spray pressure forces oil in, frees rust in record time.
LUBRICATING OIL—For impossible-to-reach places.
CUTTING OIL—Keeps drills, saws, threaders cool. Clings—won't run.
WIRE ROPE LUBE—Best method known for thoroughly lubricating wire rope *while in use!*
MULTI-PURPOSE GREASE—Saves time—gives a smooth, even coat.
OPEN GEAR GREASE—Great for 5th wheels! Recommended for all open gears.
DEGREASER—Cleans engines, machinery. Sprays on—washes off with water.

MANY OF THE ABOVE AVAILABLE IN BULK
Write now for information

CROWN INDUSTRIAL PRODUCTS COMPANY
WOODSTOCK, ILLINOIS

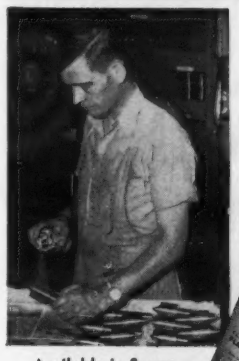
▲ For more details circle **NED-87 F** on enclosed inquiry slip ▲

...If It's *useful* in a Spray Can ...If It's used by Industry

CROWN has it!

CROWN INDUSTRIAL PRODUCTS COMPANY
926 Amsterdam St., Woodstock, Illinois

▲ For more details circle **NED-88 F** on enclosed inquiry slip ▲



Permanent rust protection for machined or bright surfaces in production or storage. Makes an excellent base for final paint.

CROWN

KLEER KOTE

Available in Spray Cans or Bulk

CLEAR ACRYLIC PLASTIC SPRAY

- Meets Government Specifications MIL-C-1259 and MIL-V-1137
- Sprays on, over or under paint
- Does not have to be removed
- Excellent resistance to sunlight; prevents bleaching or fading
- Will not crack or peel
- Resists heat, cold
- Protects against rot or decay
- Has excellent adhering qualities
- Resists salts, alkalies, weak acids
- Positively will not rub off
- Waterproofs and smearproofs labels, blueprints, etc.

Write now for complete information

CROWN INDUSTRIAL PRODUCTS COMPANY
WOODSTOCK, ILLINOIS

▲ For more details circle **NED-89 F** on enclosed inquiry slip ▲

—made for one purpose—color coding

—adheres where other paints fail

—best and cheapest way to color code steel

—High Fill gives 2-3 oz. more paint per can

17 COLORS MAKE 153 COMBINATIONS

for one and two-color coding

ALSO AVAILABLE: Complete Color Code Planning Kit and Charts

Write For Information

CROWN INDUSTRIAL PRODUCTS COMPANY
WOODSTOCK, ILLINOIS

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Play it Safe in HAZARDOUS AREAS!

GEMCO EXPLOSION•PROOF ENCLOSURES

Protect hazardous areas in your plant *economically* with Gemco explosion-proof pushbutton stations and enclosures. Lightweight cast aluminum construction, Gemco modular construction permits special pushbutton stations containing 1 to 64 units in one enclosure.

Specials? Gemco *standard* enclosures are available with receptacles, viewing windows, *plus* pushbutton stations and control panels.

Design and construction; NEMA types 7 and 9.

Write today for Bulletin No. 659 on Gemco explosion-proof enclosures

GEMCO ELECTRIC COMPANY
25685 West 8 Mile, Detroit 40, Mich.

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your most experienced source for

METAL HOSE and FITTINGS

...to control the effects of pressure, temperature and motion in the conveying of any medium

Flexonics offers the broadest line of standard hose and fittings available in corrugated or interlocked. Whatever the job calls for in type of metal or special packing, you can depend on Flexonics greater depth of product and experience to provide the answer—and quickly! Standard sizes up to 24 inch I.D.

Write for your free copy of Flexonics complete Metal Hose & Fittings Design Guide . . . or contact the Flexonics Distributor nearest you!

IH-390

Flexonics corporation
1343 Third Avenue, Maywood, Ill.

PRODUCTS: Expansion Joints, Bellows, Metal & Synthetic Hose, Aeronautical Components

SUBSIDIARY OF CALUMET & HECLA, INC.

▲ For more details circle NED-92 F on enclosed inquiry slip ▲

FORMICA ENGRAVED SIGNS

For better signs and name plates use Formica laminated plastic engraving stock. Available with black or white core; surface in your choice of eight modern solid colors and authentic wood patterns. All are light-fast and offer excellent contrast.

Letters, figures, diagrams permanently engraved by means of the pantograph machine. Legible, attractive, durable. Sheet sizes 36" x 42" and 36" x 84"; ½" to ¼" thickness.

FREE! Selector-Visualizer

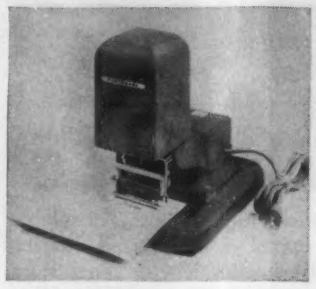
See the complete line—send for your free sample Selector-Visualizer today. Formica Corporation, a subsidiary of American Cyanamid, 4551 Spring Grove Ave., Cincinnati 32, Ohio.

FORMICA Laminated Plastic

CYANAMID

▲ For more details circle NED-93 F on enclosed inquiry slip ▲

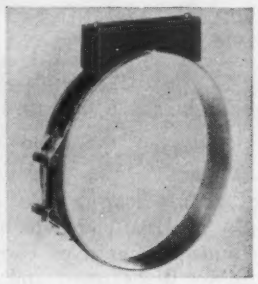
AUTOMATIC MARKING MACHINE is self-inking and uses rubber type



Vivid ink impressions are imprinted on forms, envelopes, cartons, or any flat object or material up to ⅛ in. thick by this Powermark III self - inking automatic stamping machine. Interchangeable rubber Base Lock type or logotypes are used in the ½ x 2⅝-in. stamp area. Machine plugs into any 115-v circuit, is made of lightweight aluminum, and can be equipped with automatic base or foot switch. It marks as fast as it can be fed. • Pryor Marking Products, 434 S. Wabash Ave., Chicago 5, Ill.

▲ For more details circle NED-94 F on enclosed inquiry slip ▲

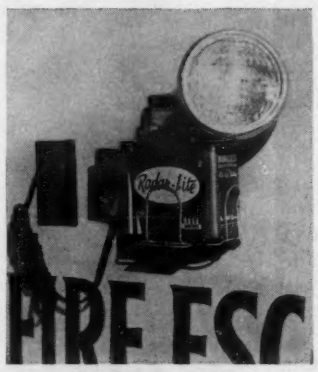
BAND HEATER in 1⅝ to 18-in. ID sizes



An aluminized steel sheath, together with a wide one-piece alloy clamping band, assures rapid heat transfer by these electric band heaters for cylindrical objects. Standard units are available in 1½-in. width, in inside diameters from 1⅝ to 18 in. Special sizes can be made to specification. • Vulcan Electric Co., 88 Holten St., Danvers 7, Mass.

▲ For more details circle NED-95 F on enclosed inquiry slip ▲

EMERGENCY LANTERN turns on when power fails



Special relay unit that plugs into 110-v ac is featured by this UL-approved battery-operated emergency lantern. Relay turns on lantern if power fails, providing emergency light at building exits, stairways, and other locations. Twin 6-v batteries, wired in parallel and sealed in a steel - clad, leakproof case, assure more than 15 hr of continuous operation. Mounting bracket fastens to any flat surface with two screws. Light head turns in a full circle and moves up or down 135 degrees. It has a 40,000 cp sealed beam flood or spot light. Disconnecting the relay converts unit to handy portable light. Price, including batteries, is $20.25. • Burgess Battery Co., Freeport, Ill.

▲ For more details circle NED-96 F on enclosed inquiry slip ▲

High heat paint problems? Use Heat-Rem H-170 up to 1700°...18 colors

Are you working out a problem with a surface that's "too hot to paint"? Heat-Rem H-170 may be the answer.

Available in 18 high heat resisting shades, it permits color coding or complete finishing of metal components subjected to temperatures from 600° to as high as 1700° (depending on color used). Typical applications are jet missile tubes, rocket motors, pressure furnaces, condensors, etc.

Heat-Rem H-170 virtually fuses with hot metal surfaces . . . forms a bright finish that's resistant to moisture, mild acids, alkalis and industrial fumes. Write for full details, requesting bulletin L-9240. A-2214A

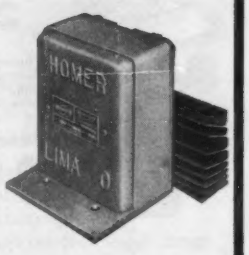
SPECO INC. Cleveland 9, Ohio

▲ For more details circle NED-97 F on enclosed inquiry slip ▲

2 WAYS TO REDUCE COSTS

USE HOMER MAGNETIC SHEET SEPARATORS...

To speed handling of round, square, irregular or nested steel shapes in shearing, pressing or other production operations. Automatically separate stacks of oily, polished, enameled or painted sheets without prying, scratching or marring the surfaces.



WRITE FOR BULLETIN SS-210

USE HOMER MAGNETIC SWEEPERS...

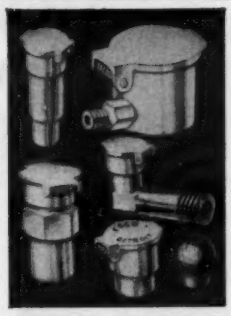
To cut plant housekeeping costs by quickly and easily keeping aisles and roadways free of ferrous scrap. Homer Magnetic Hand Sweepers available in sweeping widths 12" to 36". Road sweepers, widths 48" to 96".

WRITE FOR BULLETIN MS-250-1

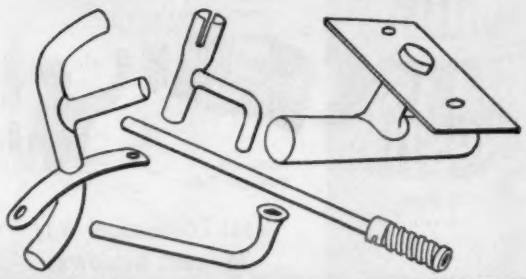
HOMER MANUFACTURING DIVISION
THE OHIO ELECTRIC MANUFACTURING CO.
DEPT. 124 • LIMA, OHIO

▲ For more details circle NED-98 F on enclosed inquiry slip ▲

EDCO OILERS CHECK VALVES and...



METAL TUBE FABRICATION



EYNON-DAKIN CO.
9900 FREELAND AVE., DETROIT, MICH.
Phone TE 4-7700

Write for NEW OIL CATALOG No. 59 with Metal Tube Fabrication Data

▲ For more details circle NED-99 F on enclosed inquiry slip ▲

NEW, LOWER PRICES on ROSSPUNCH Perforating Pins

PLUS | Accuracy ± .0003 | Over 120 stock sizes | "Jet-Fast" delivery

The standardized ROSSPUNCH is stocked in tool steel *and* high speed tool steel. Let us supply you at one-third the cost of making them yourself—a 60% saving! Your complete satisfaction guaranteed.

FREE! SAMPLE PUNCH specifications, stock and price lists are yours upon request. Write us today . . . start saving tomorrow.

ROSS Equipment co. inc.
71 COLLEGE AVENUE, ROCHESTER 7, N. Y.

▲ For more details circle NED-100 F on enclosed inquiry slip ▲

to select improved valves for your pumps

Famous for sustained efficiency under widely varied service conditions, DURABLA Pump Valve Units have been redesigned to incorporate a new taper-lock* stud, self-locking nut and drop-on guard. This improved design offers *seven new points of superiority.*

The booklet shows how DURABLA Pump Valve Units can benefit your pumps. Includes design details, materials available, table of seat sizes and dimensions. Send for free copy of Form 400 NED60.

DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, N. Y.

DURABLA®

*Patent Pending DM-29

▲ For more details circle NED-101 F on enclosed inquiry slip ▲

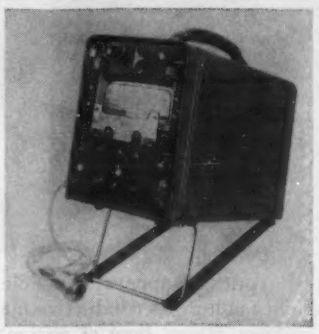
Webster DIRECT READING HYDRAULIC TYPE FORCE GAUGES

Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

Webster INSTRUMENT, INC.
Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

▲ For more details circle NED-102 F on enclosed inquiry slip ▲

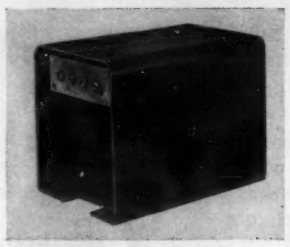
ULTRASONIC TESTER inspects metals, plastics, ceramics



Surface or internal flaw detection, thickness measurement from one side, and determination of physical and structural properties are uses for the Circosonic Model CM100 ultrasonic materials tester. It nondestructively inspects metals, plastics, ceramics, and other materials which can support ultrasonic waves. Portable unit uses the plant power supply. Ultrasonic vibrations reflected back to the receiver indicate size and location of reflecting areas on the viewing screen. ● **Circo Ultrasonic Corp.**, 51 Terminal Ave., Clark, N. J.

▲ For more details circle NED-104 F on enclosed inquiry slip ▲

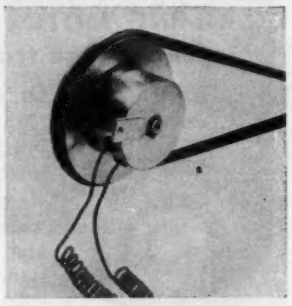
SINE WAVE TRANSFORMER voltage constant within 1½ per cent



With line variation of 95 to 130 v, output of sine wave 60 and 400-cycle transformers remains constant to within ±1½ per cent. Current - limiting feature prevents excessive fault currents. It can replace nonregulating transformers in step-up or step-down service. Transformer is tubeless and can be hermetically sealed for application at elevated temperatures. ● **Freed Transformer Co.**, 1718 Weirfield St., Brooklyn 27, N. Y.

▲ For more details circle NED-105 F on enclosed inquiry slip ▲

ELECTROMAGNETIC CLUTCH miniature unit develops 80 oz-in.



Instruments where a minimum of space is available are applications for the CT 14 miniature electromagnetic clutch. Its magnetically - engaged, spring - released, positive-acting crown teeth are pitched for easy engagement at very low speed. Smooth acceleration drives the load. Clutch has a 1½-in. diameter ¾-in. length, and develops 80 oz-in. torque. A sheave may be mounted on the driven hub which also serves as an armature. Worm and spur gear mountings are also available. Windings are for 28 v dc. ● **Stearns Electric Corp.**, 120 N. Broadway, Milwaukee 2, Wis.

▲ For more details circle NED-106 F on enclosed inquiry slip ▲

AURAND

CLEANING TOOLS
ELECTRIC OR PNEUMATIC

Zip away SCALE RUST PAINT

Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write for the money-saving facts.
AURAND MFG. & EQUIP. CO.
1322 Ellis St. • Cincinnati 23, Ohio

▲ For more details circle NED-107 F on enclosed inquiry slip ▲

NEW DESIGN- LONGER LIFE- LESS MAINTENANCE

New, Improved IDEAL ALL-SERVICE CLEANER

● Air-engineered to deliver the "max" in performance and long gruelling service. New brush assembly and greater brush length increases brush life by 100%. Special pigtail terminal prevents damage to commutator even when maintenance is neglected.

Improved mounting doubles bearing life and eliminates wear on bearing seats. Bearing load is spread over an increased area to reduce wear and equalize the load. Air movement over coils and armature windings has been stepped up approximately 50% so that motor runs cool at all times.

The result: The best cleaner in its class, in performance and economy. Shown is the Heavy Duty Model, with Blower Nozzle. Complete sets of attachments for any job ...vacuum cleaning, scrap collecting, spraying paints, oil and other liquids, even drying.*

** Light Duty Model only*

3 MODELS for All Jobs
- Super powered 1-1/3 H.P. Model for heavy duty use
- 2/3 H.P. Model for medium duty needs
- 2/5 H.P. Model for lighter duty work

IDEAL INDUSTRIES, INC.
Sycamore, Illinois

IDEAL INDUSTRIES, Inc., 1032-F Park Avenue
Sycamore, Illinois

Please send me full catalog data on IDEAL Hand-Type Cleaner-Blowers.

Name_____
Company_____
Address_____
City_____ Zone_____ State_____

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From rough cut . . . to precision beading . . .

there's extra value in a Black & Decker® tool!

Pick your operation—shaping, routing, drilling, running screws or nuts, sawing, planing, sanding—even trimming laminate: there's a Black & Decker tool packed with extra performance features to speed your woodworking jobs. Call your local B&D distributor for a demonstration today.

Look Under TOOLS-ELECTRIC For Sales or Service

▲ For more details circle NED-103 F on enclosed inquiry slip ▲

MOTORIZED COIL LIFTER

SAVES STORAGE SPACE
HANDLES COILS FASTER ... SAFER

1 Lifter Handles Both Wide and Narrow Coils With Same Speed and Economy

This C-F Coil Lifter, under control of the Crane operator handles hundreds of coils a day in a large mill . . . wide, narrow, and of varying tonnage. Fast, infinite adjustments of the motorized legs permit quick pick-up and set-down. Legs can be opened to any width and held . . . no need to open to maximum width to handle narrow coil. Maximum of 12" required between coils of any width—saves storage room.

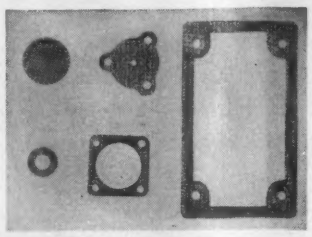
Positive tong grip on coil tightens as lift is made . . . insures safe handling. Made in motorized models for crane cab or pendant operation as well as manual types with chain wheel, in capacities from 3 tons up. Powered Rotating Heads available. Opening ranges to suit your requirements.

Write for Bulletin and complete information.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

▲ For more details circle NED-109 F on enclosed inquiry slip ▲

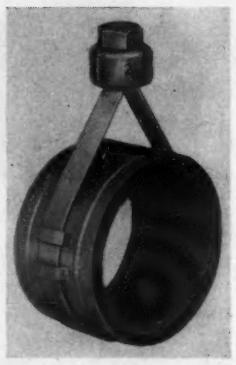
GASKET MATERIAL
high temperature shielding type



Usable temperature range from −65 to 500° F is claimed for Alu-Flex H.T. conductive and shielding gasket material. Composed of silicone rubber with aluminum mesh, it prevents radio frequency energy from escaping at joints in closed containers with RF emitting apparatus, while also providing air and fluid sealing. A conductive material between two metal surfaces allows flow of current while restricting or filtering any induced radio frequency. Material is available in 0.016 and 0.020-in. thicknesses by the yard in 8-in. widths, and in specially cut gaskets, seals, shims, rings, or other shapes. • **Auburn Mfg. Co.**, Stack Street, Middletown, Conn.

▲ For more details circle NED-112 F on enclosed inquiry slip ▲

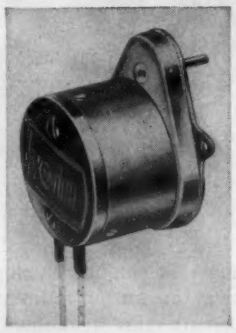
SOUND DAMPENING PIPE HANGER
for 3/8 to 6-in. diameter lines



Usable for both standard pipe and copper tubing sizes from 3/8 to 6 in., combination pipe hangers and sound isolators are easily used in the field. Sound and vibration generated in pipe lines are effectively dampened to prevent transmission to buildings or equipment. Unit has a galvanized sheet metal cover over a high compression felt vibration absorber. Special constructions are available for excessive corrosive or other conditions. • **Elcen Metal Products Co.**, 9333 King St., Franklin Park, Ill.

▲ For more details circle NED-113 F on enclosed inquiry slip ▲

DC TIMING MOTOR
speeds range from 1/15 to 60 rpm



Of permanent magnet type with improved commutator and brushes, Series MD-83 timing motor has a stainless steel rotor cage for corrosion resistance and long life. Made for 6, 12, and 28-v dc operation, it has standard windings for constant voltage speeds from 1/15 to 60 rpm. Bearings are lifetime lubricated, and gear train is enclosed. Speed is directly proportional to voltage. • **General Time Corp.**, Haydon Div., 245 E. Elm St., Torrington, Conn.

▲ For more details circle NED-114 F on enclosed inquiry slip ▲

FREE BULLETIN

Learn How Flexible Heaters Can Help You!

Send for this new literature explaining how a **flexible** heat source of up to 450°F. is provided by Watlow's Flexible Silicone Rubber Heaters. Amazingly versatile, these new heaters are available in any plane shape or special configuration, are easily applied in a variety of ways to practically any type of surface. Bulletin contains complete data covering construction, specifications, and performance ... shows how **flexible** heat can answer many of your design problems.

Write for Bulletin C102

WATLOW
ELECTRIC MFG. CO.
1374 Ferguson Avenue
St. Louis 14, Mo.
Cartridge • Strip • Immersion • Tubular
Cylinderical Electrical Heating Units

6017

▲ For more details circle NED-116 F on enclosed inquiry slip ▲

The 42 LB.
GRIPHOIST
TIRFOR

LIFTS • PULLS LOWERS 3300 LBS.
Single Line
6 TONS OR MORE
with pulley blocks

• Replaces chain hoists, air hoists, winches . . less cost, less maintenance.

Unlimited cable travel, portable, hand operated . . faster, cuts rigging time . . unmatched safety record.

One Year Guarantee

East of Mississippi
PRINCETON GRIPHOIST, Inc.
32 George St.
Boston 19, Mass.

West of Mississippi
GRIPHOIST, INC.
744 Harrison St.
San Francisco 7, Calif.

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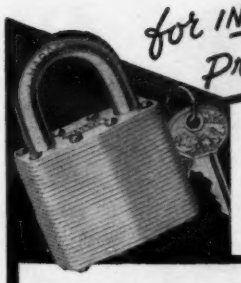
Master PADLOCKS

for INDUSTRIAL Protection

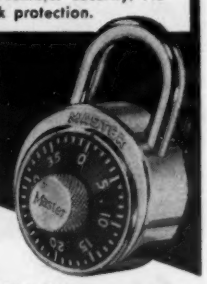


FAMOUS MASTER
Laminated Padlocks

Multiple steel plates . . . stronger than a solid block! Genuine brass-cylinder, pin-tumbler security. No finer padlock protection.

STAINLESS STEEL
Combination Padlocks

Double-wall construction . . . 3 number brass locking mechanism. Available with "Key-Control" — one control key opens all locks.



FREE BROCHURE

Condensed, easy to use information on the Master padlocks most widely used for industrial applications. Write today.

Master Lock Company, Milwaukee 45, Wis.
World's Largest Padlock Manufacturers

▲ For more details circle NED-117 F on enclosed inquiry slip ▲

A New Development in Open Gear Lubrication

PLASTIGEAR 815

OPEN GEARS RACKING DIPPER STICKS

Extremely adhesive, non-melting, waterproof and high film strength. Stable at all temperatures—will not drip off with heat or chip off with cold.

We believe Plastigear 815 is the best open gear or dipper stick lubricant manufactured to date. No solvents or pre-heating—use as is!

Want proof? Sample and information will be furnished on request.

THE WARREN REFINING & CHEMICAL CO.
CLEVELAND 2, OHIO

▲ For more details circle NED-111 F on enclosed inquiry slip ▲

CIRCUIT-MASTER

missing parts detector

detects: non-ejection • mis-feed • buckling • end-of-material

Priced as low as **$276.75** complete!

Protect all your dies from damaging overloads for less than the replacement cost of one. Circuit-Master's patented electronic circuits automatically stop your machines BEFORE an unejected part can cause a die-damaging overload. Simple to install, no changes to equipment or wiring required—Circuit-Master is completely automatic, no adjustments of any kind.

Write, wire, phone now for detailed bulletin NED-660.

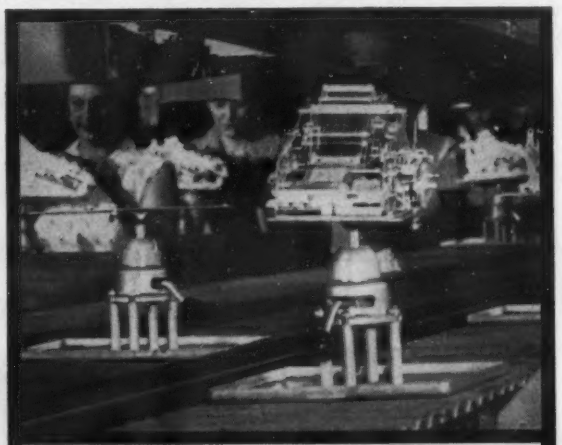
WINTRISS, INC.

Originators and Manufacturers of Circuit-Master Overload Detector, Autotransfer, Automat, Automold and Missing Parts Detector.

20 Vandam Street • New York 13 • CHelsea 2-0105

Representatives: A few territories open on an exclusive, protected basis.

▲ For more details circle NED-115 F on enclosed inquiry slip ▲



NO HOLDS BARRED AT BURROUGHS

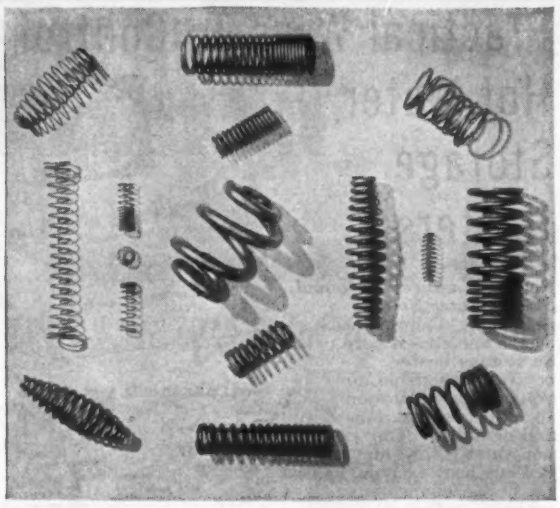
PowRarm work positioners are shown here at the Burroughs Corp., Detroit. PowRarm holds set-ups at any desired angle, freeing both hands. They never become obsolete, no matter how often you re-tool. Before investing in special fixtures again, try PowRarm.

ATTACH THIS AD TO YOUR LETTERHEAD FOR FREE DEMONSTRATION OR LITERATURE!

WILTON

WILTON TOOL MFG. CO., INC., SCHILLER PARK, ILL. NED-60

▲ For more details circle NED-118 F on enclosed inquiry slip ▲



Compression Springs

Before your designs are frozen, check with our engineers for possible savings. Proper material selection is important. Unnecessarily close tolerances add to cost. Send for pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5819

▲ For more details circle NED-119 F on enclosed inquiry slip ▲

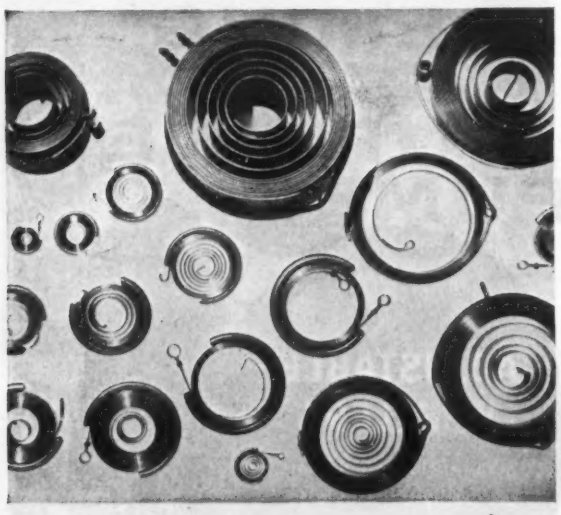
Belleville Springs

Where range of deflection is limited and loads are heavy, Belleville washers may have the answer for you. Can be stacked in series, parallel, or in combination. Can also be made to exert constant pressure. For information and helpful design pointers, send for booklet "Belleville Springs."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5827

▲ For more details circle NED-120 F on enclosed inquiry slip ▲



Power Springs

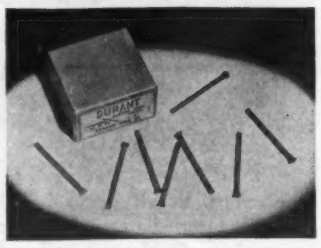
A.S.C. Divisions are unusually well equipped for the manufacture of flat spiral and motor springs. Made from our own cold-rolled specialty steels or other suitable metal, they can be furnished in sizes and methods of end attachment to meet your requirements. Write for handy pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5826

▲ For more details circle NED-121 F on enclosed inquiry slip ▲

HEADED PINS
up to 1/2-in. diameter sizes



New sizes of Durant headed pins include pins up to 1/4-in. diameter in 2, 4, and 6-in. lengths. The tool steel pins have 58/60 Rockwell C hardness, a honed finish, and soft heads that will not break. The new sizes are in addition to 111 different sizes beginning at 0.020-in. diameter by 2-in. length. ● Durant Tool Co., 12 Thurbers Ave., Providence 5, R. I.

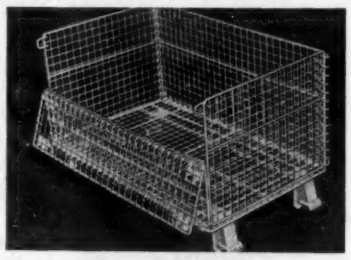
▲ For more details circle NED-122 F on enclosed inquiry slip ▲

ULTRASONIC SENSOR
for various control applications

Counting, sorting, routing, machine safeguard, plant protection, door control, and hopper and bin level control are among control applications for the Sonac noncontact sensing and switching system. Device consists of two sensors and a control unit, and uses ultrasonic energy for its "beam." It will sense liquids, solids, ferrous and nonferrous metals, and opaque or transparent objects. Sensors can be concealed or remotely located, and they are not affected by ambient light, mist, dust, or normal build-up of residue on the acoustic lens face. They consume about 1 w and are operated in −100 to 220° F range. ● Delavan Mfg. Co., Electro-Sonics Div., 811 Fourth St., West Des Moines, Iowa.

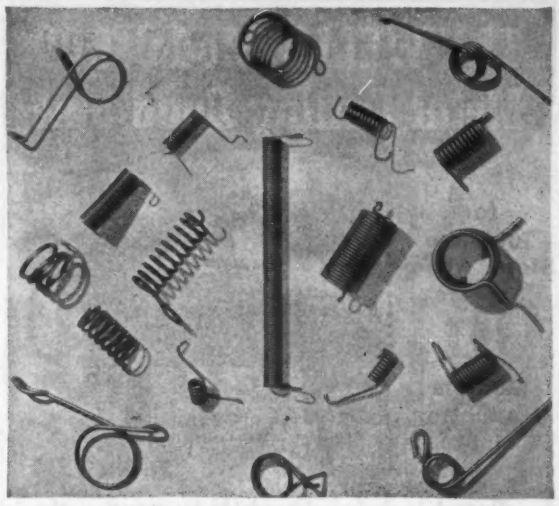
▲ For more details circle NED-123 F on enclosed inquiry slip ▲

STEEL MESH CONTAINERS
500-lb capacity unit is stackable



Hinged side-gate feature of Junior Palletainer permits easy access to its contents, even when stacked. The 32 x 20 x 16-in. Model 3220-SGC unit is made of electrowelded steel rod with 1 1/8-in. mesh openings, four steel stacking legs, and reinforcement at points of stress for ceiling-high stacking. It is easily moved by hand-operated floor truck or stacked by a lift truck. Finish is scuff-proof, baked aluminum paint. The 500-lb capacity container is designed for handling, storage, and transport of small parts and assemblies. It folds flat to save storage space and shipping costs. ● Union Steel Products Co., Albion, Mich.

▲ For more details circle NED-124 F on enclosed inquiry slip ▲



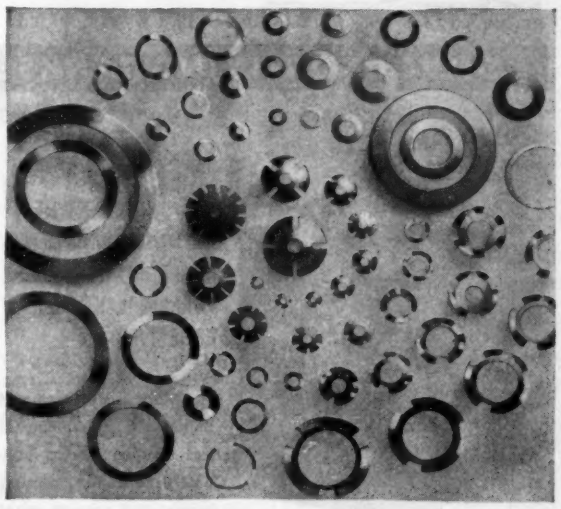
Torsion Springs

From a tiny hinge spring to a rugged auto starter spring, A.S.C. Divisions make countless varieties of torsion springs. Materials are round or flat wire wound spirally or on edge. Write for booklet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5822

▲ For more details circle NED-125 F on enclosed inquiry slip ▲



Spring Washers

Thousands of tools available for production of your washers—slotted, finger, star, cupped, wavy, etc. Also belleville washers for use as springs in limited space. Save tool charges. Send for list of tool sizes ready to meet your requirements.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5830

▲ For more details circle NED-126 F on enclosed inquiry slip ▲

Engineering, manufacturing, and sales facilities located coast-to-coast for custom service on all your requirements

BRISTOL, Connecticut
Wallace Barnes Division
Dunbar Brothers Division
F. N. Manross and Sons Division

SYRACUSE 9, New York
Wallace Barnes Division
State Fair Boulevard

CORRY, Pennsylvania
Raymond Manufacturing Division

HAMILTON, Ontario, Canada
The Wallace Barnes Company Ltd.
274 Sherman Ave. North

MONTREAL, Quebec, Canada
The Wallace Barnes Company Ltd.
119 Hymus Boulevard
Pointe Claire

CLEVELAND 23, Ohio
Sales Office
22700 Shore Center Avenue

DAYTON 3, Ohio
Ohio Division
1825 East First Street

PLYMOUTH 2, Michigan
B-G-R Division
40300 Plymouth Road

ANN ARBOR, Michigan
B-G-R Division
401 East Stadium Boulevard

MATTOON, Illinois
Gibson Division

CHICAGO 46, Illinois
Sales Office
5322 West Devon Avenue

MILWAUKEE 2, Wisconsin
Milwaukee Division
341 East Erie Street

LOS ANGELES, California
Seaboard Pacific Division
15001 South Broadway
Gardena, California

Wallace Barnes Steel Division
Bristol, Connecticut
High Carbon Strip Steel

Associated Spring Corporation
General Offices
Bristol, Connecticut

The WELLS Model 600 Metal Cutting Band Saw

for Tool and Stock Room Service

•

for Medium Production Jobs

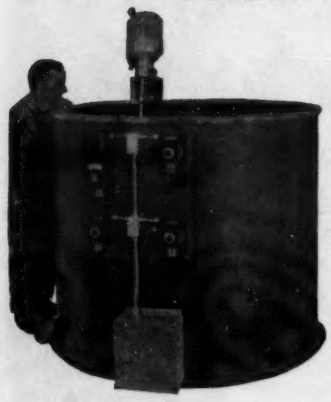
Rugged in design, dependable in operation, the Wells Model 600 is the ideal saw for tool and stock rooms . . . gives excellent service on medium production jobs. Uses 5/8" blade. Adjustable, uniform gravity feed is provided by hydraulic stabilizer and special coil spring. Casters available for portability. Write for Bulletin 260-A.

The Pioneers of Horizontal
Wells METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORPORATION
1313 Harding St., Three Rivers, Michigan

▲ For more details circle NED-128 F on enclosed inquiry slip ▲

Sta-Warm ELECTRICALLY HEATED COMPOUND MIXING TANKS

CAPACITIES TO 2,000 GALLONS



505-Gallon Motor Agitated Compound Melter

DESIGNED FOR FAST, EASY, EFFICIENT HEATING AND MIXING OF ASPHALT, PITCH, WAXES, THERMOPLASTICS, ADHESIVES, etc

Sta-Warm engineers and builds a complete line of standard or special melters, dispensers, mixing tanks and pots to meet your production line requirements.

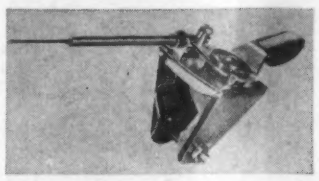
WANT A CATALOG? WRITE TODAY.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

▲ For more details circle NED-129 F on enclosed inquiry slip ▲

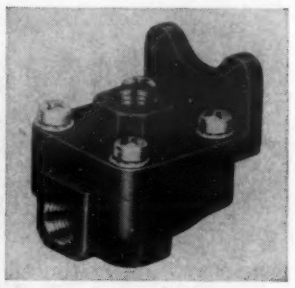
THROTTLE CONTROL for small gasoline engines



Clamp-on type manual throttle control for use on the small gasoline engines that power lawnmowers, golf carts, snow plows, and similar equipment is engineered to fit all 3/4 to 1 3/32-in. round bars. It is quickly clamped onto the handle and provides a 1 1/2-in. stroke. Cables are offered in custom lengths, or in 4 and 6-ft stock lengths. Parts are rustproofed and brightly finished. • Superior Screw & Mfg. Co., Box 436, Crystal Lake, Ill.

▲ For more details circle NED-131 F on enclosed inquiry slip ▲

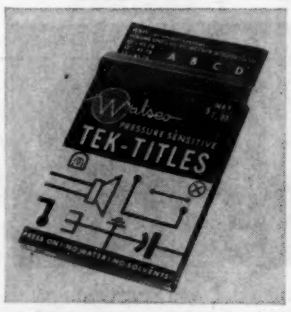
AIR SHUTTLE VALVE for up to 200 psi maximum pressure



Containing only one moving part, an easily replaceable rubber diaphragm, this 6-oz cast aluminum air shuttle valve selects and directs air flow from one or the other of two controlling devices to a common outlet. Only 1 psi pressure differential will seal off the low pressure line and connect the higher pressure line to the outlet. Valve is available with 1/8 or 1/4-in. ports and withstands 200 psi maximum pressure. Operating temperature range is −40 to 160° F, with 200° F permissible intermittently. Price for both sizes is $6. • Westinghouse Air Brake Co., Industrial Products Div., Box 36, Wilmerding, Pa.

▲ For more details circle NED-132 F on enclosed inquiry slip ▲

ELECTRONIC SYSTEM LABELS 24 assortments are available

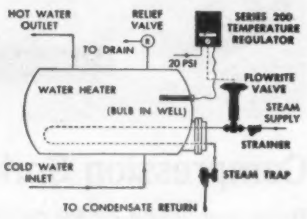


Sheets of gold or silver foil with pressure-sensitive adhesive backing and containing hundreds of standard electronic terms and designs comprise Tek-Titles, a series of labels for all electronic applications. User clips out the label he needs, then applies it to the panel or other location. Twenty-four assortments are available, including transistors, intercom systems, lubrication, maintenance and calibration, sound systems, alphabets (large and small), numerals (large and small), electrical distribution, and U. S. Government property (Army, Navy, and Air Force). Each package is $1.35. • Walsco Electronics Mfg. Co., 100 W. Green St., Rockford, Ill.

▲ For more details circle NED-133 F on enclosed inquiry slip ▲

Practical Ways To Control Hot Water Storage Heaters

Powers *Engineer's Manual, Steam-Water Service* containing diagrams such as the one shown here on storage heater control is available to you without obligation. Included are diagrams and details on domestic hot water . . . instantaneous heat exchangers . . . heat exchangers for cooling . . . fuel oil heaters . . . pressure reducing . . . jacket water cooling . . . two-temperature hot water systems.



Send for your Engineer's Manual now! Also ask for recommendations on any special requirements.

POWERS CONTROL
THE POWERS REGULATOR CO.
Dept. 660, Skokie 44, Illinois
In Canada:
The Powers Regulator Co. of Canada Ltd.
Downsview, Ontario

▲ For more details circle NED-135 F on enclosed inquiry slip ▲

Morse Eberhardt-Denver "C" flanged separable Gearmotors

Sold 2 ways: with electric motor or without!

Here's flexibility! Buy this Morse E-D Gearmotor right off the shelf complete with Nema electric motor or without. You can use your own motor. Versatile—simple to change drive ratio. Mount it in any position.

This "C" flanged type reducer offers capacities from 1/12 hp to 2 hp and gear ratios from 5:1 to 60:1.

NEW—FREE Morse E-D catalog of "C" flange gearmotors. Write Morse Chain Company, Dept. 19-60, A Borg-Warner Industry, Ithaca, N.Y. Export Sales: Borg-Warner International, Chicago, Ill. In Canada: Morse Chain of Canada, Ltd., Simcoe, Ontario.

MORSE BW
A BORG-WARNER INDUSTRY

▲ For more details circle NED-136 F on enclosed inquiry slip ▲

Perfect For So Many Handling Needs... The Completely Different

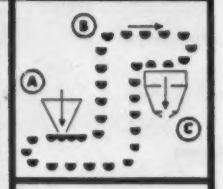
ECON-O-LIFT* BUCKET ELEVATOR & CONVEYOR

To Convey All Materials Including:
- Tea, Candy, Cookies, Fruit
- Chemicals, Powders, Drugs
- Small Mechanical Parts & Hardware

Exclusive operating features permit the ECON-O-LIFT to perform many conveying jobs that other conveyors simply CANNOT do. It's ideal for rapid, economical handling of bulk loads or small components without breakage, marring or dusting . . . to elevate, lower or transfer materials — even liquids and semi-liquids.

Illustration (right) shows how the exclusive ECON-O-SPACER action (A) moves spaced trays TIGHTLY together into interlocking bank at loading point. No spillage is possible between trays. Only simple dump loading is required. Trays resume spaced relation (B) and remain spaced and upright at all times . . . even on turns. At unload point or points (C), trays turn upside-down for COMPLETE dumping, then quickly return to horizontal position for travel.

For many valuable ideas on how the ECON-O-LIFT can perform smoother, more economical handling in YOUR plant, send coupon now for free, illustrated manual.



*T.M.

ECON-O-VEYOR
224 Glen Cove Ave., Glen Cove, N. Y.

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COMPANY.....
ADDRESS.....
CITY.....ZONE.....STATE.....

Sold Nationally by:
THE *Creamery Package* MFG. COMPANY
General & Export Offices: 1243 W. Washington Blvd., Chicago 7, Ill.
Branches in 23 Principal Cities
CREAMERY PACKAGE MFG. CO. OF CANADA, LTD. TORONTO 19, ONTARIO

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PORTER PORTABILITY

CUTS METAL CUTTING COSTS!

HKP® PORTER CUTTERS

The "take it to the job" feature of PORTER CUTTERS makes them an absolute must in modern production, maintenance, service and materials handling operations! And you save time, labor, and money, too, with these powerful metal-cutters! There are over 100 different PORTER CUTTERS — HAND and POWER-OPERATED — that will cut just about any soft, medium hard, or hard metal you can name!

WRITE FOR YOUR FREE PORTER CATALOG TODAY!

See Your Industrial Supply Distributor For Prompt Service.

CUT — up to 3/4" rods with HAND OPERATED TOOLS — up to 1 3/8" rods and 2 1/2" power cable with POWER OPERATED TOOLS.

H.K. PORTER, Inc.
Somerville 43, Mass.

▲ For more details circle NED-134 F on enclosed inquiry slip ▲

DEMING VERTICAL TURBINE PUMPS

ADJUSTABLE IMPELLERS

Semi-enclosed impellers are easily adjustable for maximum performance under varying conditions.

Just one of many Deming features that mean longer life and lower operating costs

The DEMING Co.
606 BROADWAY • SALEM, OHIO

▲ For more details circle NED-137 F on enclosed inquiry slip ▲

DELAVAN

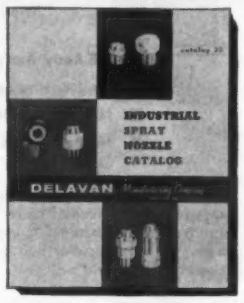
SPRAY NOZZLES for industrial use

You'll find the nozzle that's right for your specific requirements in the complete selection offered by Delavan.

Manufacturers all over the world rely on Delavan for high quality, precision industrial nozzles.

Whatever your nozzle requirements, specify Delavan.

Write for Catalog 33 for complete details and technical specifications.



DELAVAN *Manufacturing Company*
WEST DES MOINES • IOWA

▲ For more details circle **NED-138 F** on enclosed inquiry slip ▲

ENGLER HUBODOMETERS

Complete acceptance by fleet owners plus 10 years of field experience has proven Engler Hubodometers as the most accurate method of determining mileage on *all* commercial vehicles. Hermetically sealed, easy to read, and conveniently installed, Engler Hubodometers are distributed by truck and trailer branches and leading automotive parts suppliers. Engler Hubodometers are also available on new equipment at all truck, trailer and bus manufacturers.

VDO TACHOGRAPH

The VDO Tachograph is a precision speedometer that records in easy-to-read chart form the speed and mileage of a vehicle at any time. Accurate at all speeds, the Tachograph provides information to promote safety, cut maintenance costs and eliminate wasted time and unscheduled stops. Warns when a preadjusted speed is reached. Available in both M.P.H. and R.P.M. Models.

D C HOUR METER

The Engler DC Hour Meter electrically registers hours and minutes of engine operation. Permits a longer service life by providing a protective maintenance program through a true time utilization record of all powered equipment. Designed for use on materials handling equipment, tractors, road graders, trucks and pumps, etc., the Engler D.C. Hour Meter is easy to read, available in various sizes and voltages and sealed against dust and moisture. Built for years of dependable and trouble-free service.

Engler Instrument Co.
Dept. NE-66, 280 Culver Avenue Jersey City 5, New Jersey

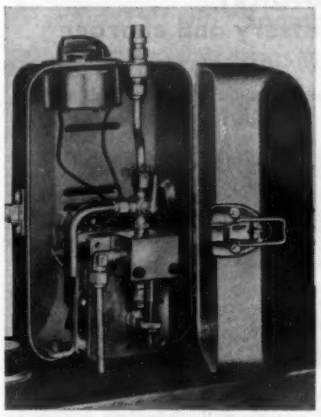
▲ For more details circle **NED-139 F** on enclosed inquiry slip ▲

COIL CRADLES
modified for uncoiling wire

Several models of Powerolf coil cradles shown here are modified to permit uncoiling of heavy wire for subsequent operations. They are easily loaded, accommodate a wide range of spools without adjustment, and have a slack loop for feeding. • **Medelton Co.**, 262 E. Third St., Mt. Vernon, N. Y.

▲ For more details circle **NED-141 F** on enclosed inquiry slip ▲

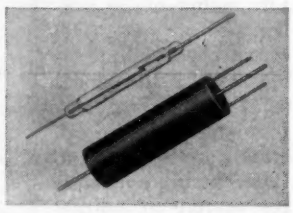
MOTOR DRIVEN PUMP
measuring, lubricating among uses



As little as 1 drop of liquid every 5 min or as much as 1 pt per min can be moved by this positive displacement, motor driven pump. It is suited for precise pumping, measuring, and lubricating uses, handling all clear liquids. A simple adjustment enables it to meter exact quantities. An electronic timer is optional. Standard 110 or 220-v model is made of metal that withstands corrosion from ordinary liquids. Pump will operate under a range of heads or pressures. • **Bomar Laboratories Ltd.**, Pump Div., Sheridan Road at Winona, Chicago 41, Ill.

▲ For more details circle **NED-142 F** on enclosed inquiry slip ▲

REED RELAY
switches loads up to 15 w, 250 v



Improved dependability of computers, data processing equipment, and transistor drives results from high operating speed permitted by these reed relays. They feature a short pole piece with a long moving reed. The hermetically sealed, glass encapsulated magnetic reed switch is surrounded by a 9/16-in. diameter operating coil and provides single-pole, normally-open low power switching of loads up to 15 w, 250 v. Maximum operating current is 1 amp. Load life at one-quarter of maximum rating is about 200 million operations. Minimum operating power is 100 milliwatts. Units will also be furnished in assemblies consisting of several switches surrounded by a single operating coil. • **Struthers-Dunn, Inc.**, Lambs Road, Pitman, N. J.

▲ For more details circle **NED-143 F** on enclosed inquiry slip ▲

NOW More stamina, more versatile performance than ever before!

PORTELVATOR®

The Handy HAMILTON Portable, Elevating Table

NEW NEW convenience in maneuvering! Six wheel models roll easier . . . turn shorter.
provision for increasing table area!

NEW NEW provision for raising and lowering overhanging loads!
overhanging conveyor tops!

NEW FREE LITERATURE illustrates and describes all! Write for Bulletin P-5606. Address, The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

5606 IT'S A *Hamilton Tool* USE IT WITH CONFIDENCE

▲ For more details circle **NED-145 F** on enclosed inquiry slip ▲

NEW Low-Cost Sweeper

Out-performs any other sweeper of its size

CLEANING A 34" PATH, the efficient new Tennant "40" sweeps congested areas at normal walking speeds.

IT'S FAST . . . Sweeps 2 to 5 times faster than a man with a broom—and *equals "big sweeper" standards of cleanliness!*

Operating at speeds to 3 mph and cleaning a 34" path, the compact MODEL 40 can sweep over 2,000 sq. ft. in 5 minutes . . . averages 8,000 to 20,000 sq. ft. per hour in most plants.

IT'S EASY TO USE in crowded, congested areas; turns in its own tracks! Propels itself . . . you merely guide it. Space-saving design (33" clearance) is ideal for narrow aisles.

SWEEPS EXTRA CLEAN . . . gives results *never possible before in sweepers of this size!* Powerful vacuum-and-brush system gets fine dust that brooms miss . . . draws dirt from many cracks. Assures almost 100% "dust-free" work.

You'll want to learn more about the unusual new TENNANT Model "40" Sweeper. Write for full information *today!*

OUR 90th YEAR TENNANT *Industry's Most Widely Used* **POWER SWEEPERS**

G. H. TENNANT COMPANY • 715G NO. LILAC DRIVE • MINNEAPOLIS 22, MINNESOTA

▲ For more details circle **NED-146 F** on enclosed inquiry slip ▲

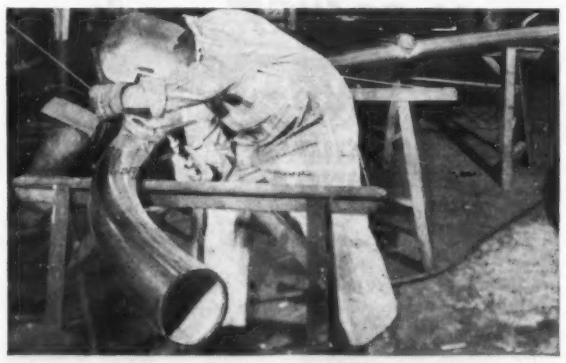
Republic METAL LUMBER
for custom-built framing

It is easy to construct custom-built framing with Republic METAL LUMBER®. Simply measure, cut, and assemble with bolt and nut fasteners.

Republic METAL LUMBER is available in two gages, two widths, in standard bundles of either 10- or 12-foot lengths. Call your Republic representative or order from warehouse stocks.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. · Canton 5, Ohio

▲ For more details circle **NED-140 F** on enclosed inquiry slip ▲

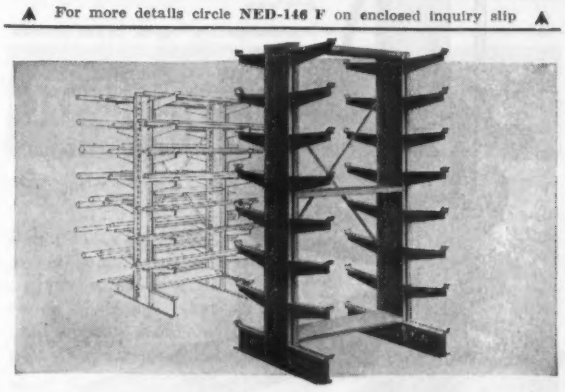


ELECTRUNITE Stainless Steel Tubing
IS EASY TO FABRICATE

Bend, flange, weld, easy-to-fabricate Republic ELECTRUNITE® Stainless Steel Tubing. Complete range of sizes, gages, wall thickness. Broad distributor stocks. Large inventories of mill stocks. Top reputation for quality. Technical and metallurgical assistance. Price and delivery quotations within 24-hours. Call your Republic representative, or write.

REPUBLIC STEEL
STEEL AND TUBES DIVISION
233 East 131st St. · Cleveland 8, Ohio

▲ For more details circle **NED-144 F** on enclosed inquiry slip ▲



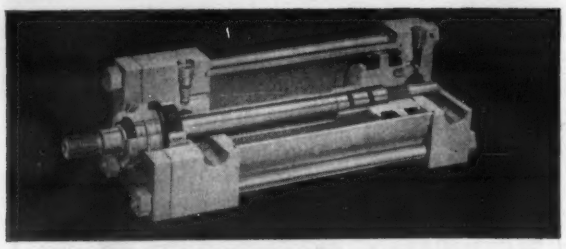
New REPUBLIC BAR RACK
solves stock and store problems

The new Republic Bar Rack is the ideal solution to the practical, economical way to store bars, pipe, rods, any elongated stock. Adjustable arm arrangement allows for easy access and stock segregation.

Compact, too, 78" high, 36" wide, and 33" deep at the base. Call your Republic-Berger representative. Or write for information.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. · Canton 5, Ohio

▲ For more details circle **NED-147 F** on enclosed inquiry slip ▲



NEW! SCHRADER SQUARE-END CYLINDERS

meet and exceed **JIC** specs.....
250 psi air.....750 psi hydraulic

New Schrader Square-End cylinders give you compact, versatile, straight-line power. Use these double-acting cylinders for holding, positioning, moving work. Use them to push, pull or lift. Use them to automate manual operations.

In five sizes up to 4-inch bore, with four interchangeable mountings. This new Cylinder series will mount five ways: bolt, leg, flush, side-flush and base. Available cushioned or non-cushioned.

Write for your FREE copy of new JIC Cylinder catalog insert. Complete stocks are now available locally, plus expert help with your air control hookups.

Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

▲ For more details circle **NED-148 F** on enclosed inquiry slip ▲

Slashes fastening costs and time

Bostitch Model E Stapler—foot or electrically operated ...accurately places up to 186 staples per minute.

- Bostitch Model E Staplers give you faster and better fastening compared to these other methods — glue, nails, pins, rivets, rubber bands, solder, string, tacks, tape, thread, wire ties, and others.
- Foot or motor operated — both hands are free to position the work for increased speed and fastening accuracy.
- For fastening jobs where the work can be brought to the machine.
- For high-speed fastening of most non-brittle materials.
- 15 models — including arm machines, machines with tables, bottoming posts, gooseneck arms and with sealing blades. 33 head types and many optional arrangements to solve unusual fastening problems.
- Interchangeable stapler heads provide great versatility.

NATIONWIDE APPLICATION AND SERVICE HELP 350 Bostitch Economy Men work out of 123 U.S. and Canadian cities. Application information, parts and service are always nearby. An office near you is listed under "Bostitch" in your telephone directory. Call or circle our number on the Reader Service Card to receive free brochure.

Fasten it better and faster with

BOSTITCH
STAPLERS AND STAPLES
686 Briggs Drive, East Greenwich, Rhode Island

▲ For more details circle **NED-149 F** on enclosed inquiry slip ▲

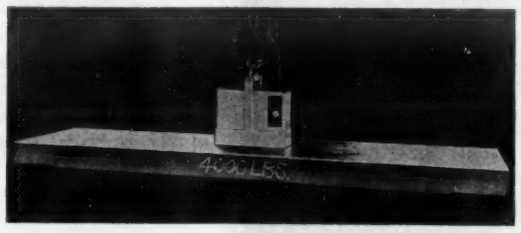
BALL CONTACTS made of precious metals

Eight standard sizes ranging from 0.028 to 0.188 in. are available in these precious-metal ball contacts. They are offered in fine and coin silver; Conmet No. 4, 17, and 43; plus other headable materials. Five or six standard sizes will replace many conventional contact types and sizes. They can be assembled automatically with economical tooling by cold upsetting or welding. Other contact materials and sizes can be specified. • **Contacts, Inc.**, Silas Deane Highway, Wethersfield, Conn.

▲ For more details circle **NED-150 F** on enclosed inquiry slip ▲

SELF-POWERED MAGNET has integral battery and charger

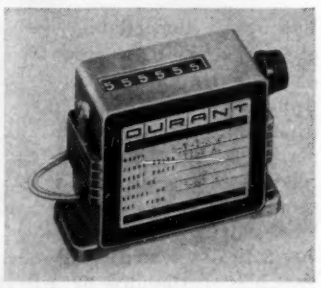
Because of its integral power supply, this Magna Lift material handling magnet can be used anywhere. It will lift 4000-lb steel or iron loads, and is powered by



a built-in replaceable dry-charge storage battery. A built-in charger, control panel, and charging indicator permit it to be plugged into any lighting or power circuit for recharging. Price is $384. • **Hanchett Magna-Lock Corp.**, Dept. NE6, Box 816, Big Rapids, Mich.

▲ For more details circle **NED-151 F** on enclosed inquiry slip ▲

ELECTRIC COUNTER makes up to 1200 counts per minute



Life rating of 30 million counts at 1000 counts per minute is reported for the Model 6-Y-1-RMF electric counter. It has an operating speed up to 1200 accurate counts per minute at normal voltage. It has a silent, rapid operating solenoid and a built-in rectifier for alternating-current operation. Plastic number wheels have large white figures on a black background. Corrosion resistant counter, housed in a one-piece diecast frame, is unaffected by shock and vibration. It may be mounted on production machinery or activated by a remote contactor. • **Durant Mfg. Co.**, 1922 N. Buffum St., Milwaukee 1, Wis.

▲ For more details circle **NED-152 F** on enclosed inquiry slip ▲

THIS SQUIRT LOOSENS- FROZEN BOLTS ...BEARINGS

It's fast and accurate — shoots 15 feet — a drop or a squirt. It's labeled Kroil — so you can grab it quickly when a frozen bolt, screw or bearing starts to cost expensive time or threaten production.

That is when Kroil creeps into millionth inch spaces to soften rust, dissolve gum and supply lubrication to loosen the parts. It's fast and it's positive.

"Kano Kroil always opens up the tight fitting covers on fire extinguishers for us. We have found such covers we could not force off with a blow of a hammer. Several minutes' seepage of Kroil did the trick," so says a service organization for fire extinguishers.

If you are not one of the 19,000 industrial plants already using Kroil, send for a gallon on the proposition that it will loosen the most stubborn frozen part or you get your money back.

Kroilers are priced at $1.50 each. As an inducement to try Kroil we offer the combination of one Kroiler and one gallon of Kroil—(listed at $4.35) for $5.25 f.o.b. factory.

Ask for "Kroiler Deal" — order direct.

KANO LABORATORIES
1074 Thompson Lane, Nashville 11, Tenn.

▲ For more details circle **NED-153 F** on enclosed inquiry slip ▲

CUT VIBRATOR MAINTENANCE up to 80%

with Navco's "One-Piece"* Trouble-Free Construction

- No Body Ass'y Bolts to Shear or Stretch
- No Housing Springs to Replace
- No Separate Striking Plate to Leak Air
- No Grooved Pistons to Collect Scale or Oil Emulsions

Navco "Long-Stroke" vibrators dislodge arched materials with a timed impact—don't pack them as do high frequency vibrators. Complete line of Navco "one-piece" air vibrators for bins, hoppers, chutes, R.R. cars, concrete forms, and batching.

FREE CATALOG—*Detailed information on models and applications. Write Dept. ND-6.*

*Patented

NAVCO NATIONAL AIR VIBRATOR CO.
435 Literary Ave., Cleveland 13, Ohio

▲ For more details circle **NED-154 F** on enclosed inquiry slip ▲

WELD CLEANING

...do it faster, for less with OSBORN *Power Brushes*

WRITE FOR FREE SPEC SHEET . . . includes useful application data plus complete specifications on Disc-Center® . . . Cup and Keb® weld cleaning brushes. Helps you select the *right* Osborn brush for your job—from normal to extra-heavy duty. Write *The Osborn Manufacturing Company, Dept. N-18, Cleveland 14, Ohio.*

Osborn Brushes

POWER, PAINT AND MAINTENANCE BRUSHES
METAL FINISHING MACHINES . . . AND FINISHING METHODS
FOUNDRY PRODUCTION MACHINERY

▲ For more details circle **NED-155 F** on enclosed inquiry slip ▲

it's low it's flat it's compact

all NEW **sil-low-et** roof ventilator

Here's the *lateral-look* in roof ventilators that really brings the "skyline" down! Distinctive, roof-hugging design makes it ideal for commercial buildings, industrial plants and office structures—old or new. Supplied as an exhaust or air supply unit in sizes 12" through 48" for capacities from 325 to 35,900 cfm. Heavy-gauge steel with aluminum asphalt-base paint or all-aluminum on order.

Write for Bulletin 609

Aerovent — Air deliveries of all Aerovent equipment are tested and rated in accordance with established and accepted agency and each unit is guaranteed by the manufacturer to deliver its rated performance. CERTIFIED PERFORMANCE

Aerovent FAN COMPANY, INC.
Ash and Blake Sts. Piqua, Ohio

▲ For more details circle **NED-156 F** on enclosed inquiry slip ▲

Now, with more than fifty models in the Dustkop line—plus efficient accessory items—the odds are that a standard unit will solve your problem. Dustkop units solve other problems too. They're easier to install, save space and money and are virtually maintenance-free!

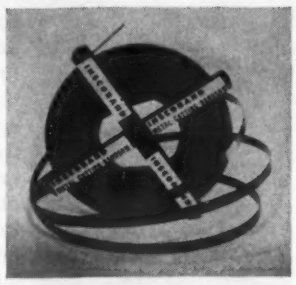
how to select a dust collector

This new brochure includes all basic information needed to select the right dust or mist collector for grinding, buffing, polishing and other types of service. Write for your copy. No obligation.

AGET Manufacturing Company
1396 Church St., Adrian, Michigan
DUSTKOP STOPS DUST

▲ For more details circle NED-157 F on enclosed inquiry slip ▲

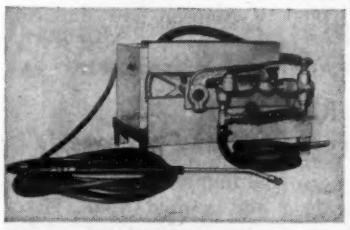
METAL CUTTING SAW BAND
has 3 to 32 teeth per inch



Sizes from 1/16 to 1 in. are offered in all standard types of low cost Insco-band Hardedge metal cutting saw bands. It can be supplied in the form of welded bands or in coils and has a range of from 3 to 32 teeth per inch of length. • Industrial Sales Co., Box 2399, Buffalo 23, N. Y.

▲ For more details circle NED-160 F on enclosed inquiry slip ▲

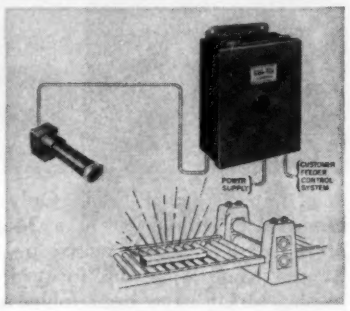
INDUSTRIAL CLEANING MACHINE
electric unit operates on 220-v ac



Machinery, equipment, and parts are readily cleaned with this Multi-Job Washer, an electric heated - solution cleaner. Detergent or cleaning solution is drawn from a drum or tank, heated electrically, and delivered at temperatures to 180° F to the hand controlled gun. By changing the gun nozzle and a single control, pressure of the hot cleaning solution can be increased from 250 to 300 psi. Detergent used is harmless to finished surfaces, metals, and wiring. Washer mounts on a 55-gal drum, operates on 220-v ac, and is equipped with 40 ft of hose, gun, and two nozzles. • Homestead Valve Mfg. Co., Coraopolis, Pa.

▲ For more details circle NED-161 F on enclosed inquiry slip ▲

INFRARED DETECTOR CONTROL
detects hot ingots, blooms, billets



Sen-Tek infrared detector control detects the presence of hot ingots, blooms, billets, slabs, and other radiant sources and produces a signal to initiate subsequent operations. Its high sensitivity at a distance makes remote detection possible. Multiple arrangements of sensing units in conjunction with read-out systems can be provided for measuring random lengths of hot bars, pipes, or rails. Cold cathode tube requires no warm-up time, and equipment is safe. Plug-in relay with normally-open and normally-closed contacts is plastic enclosed. • Euclid Electric & Mfg. Co., Madison, Ohio.

▲ For more details circle NED-162 F on enclosed inquiry slip ▲

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

▲ For more details circle NED-164 F on enclosed inquiry slip ▲

SEALMASTER "L" SERIES

A HIGH QUALITY LINE OF MALLEABLE HOUSED BEARING UNITS AND BEARINGS AT A COST THAT IS WARRANTED ON YOUR MACHINE!

- SELF-ALIGNING
- ONE-PIECE MALLEABLE HOUSING
- PERMANENTLY SEALED
- EASY RACE TO SHAFT LOCK

Available in pillow blocks and two or three bolt flange units for flush or recessed mountings. All units in the "L" Series available with the new SEALMASTER contact type seal.

LP PILLOW BLOCK LFT FLANGE UNIT LF FLANGE UNIT

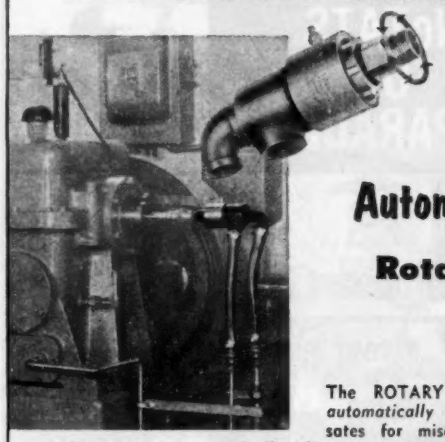
WRITE FOR BULLETIN 359

SEALMASTER BEARINGS
A DIVISION OF
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS
Plants Located in: Los Angeles, Calif. Clarksdale, Miss • Belleville, Ontario

SEALMASTER BALL BEARING UNITS

▲ For more details circle NED-158 F on enclosed inquiry slip ▲

The ROTARY UNION*



The Automatic Rotating Seal

The ROTARY UNION *automatically* compensates for misalignment and wear, and *automatically* adjusts to variations in line pressure. Because it maintains its precision mechanical seal at all times, it outperforms and outlasts all similar equipment, and saves you money.

Over 40 standard types and sizes of ROTARY UNIONS cover almost every application where rotating equipment must be heated or cooled. Pipe sizes ¼" through 5".

Write for Bulletin 700. *Trade Name - Patented

"WHERE *Good Connections* COUNT"
PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Montreal—Toronto

▲ For more details circle NED-165 F on enclosed inquiry slip ▲

Duty Master

a brand new A-c. motor

New design gives users better protection from the inside out, simplified lubrication, better response and improved all around performance. The Duty Master a-c. line, from protected to totally-enclosed, explosion-proof, 1 to 250 hp. is ready for delivery *now*.

NEW DUTY MASTER BULLETIN now available with specific information about its advanced engineering qualities and design features. Write for B-2106. B-1646

RELIANCE ELECTRIC AND ENGINEERING CO.
Dept. 246A CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

▲ For more details circle NED-159 F on enclosed inquiry slip ▲

REEVES Vari-Speed MOTOR PULLEY

Get variable speed simplicity and economy with REEVES!

This Motor Pulley design has only *three main parts:* two smooth-faced, cone-shaped discs, one mounted in fixed position on the shaft, the other to slide laterally on the hub of the fixed disc. Third part is the belt tension spring which automatically maintains pressure on the sliding disc at all output speeds. Smooth stepless speed changes result by adjusting sliding motor base. Available in nine sizes, ½ through 15 hp. to fit either new or old NEMA motors. Speed ranges up to 4:1.

WRITE TODAY for Reeves Bulletin No. G-5812 for all the facts, or call your nearest Reliance Sales Engineer. G-1662

RELIANCE ELECTRIC AND ENGINEERING CO.
246A1 CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

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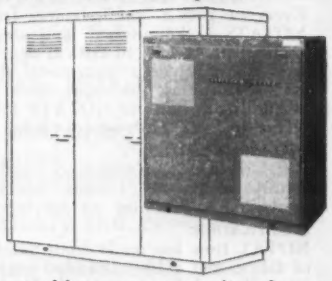
Reliance V★S Drives

more power in 35% less space!



Super 'T' V★S Drives are efficient, integrated units—with a wide range of stepless variable speeds from in-plant a-c. circuits.

New Super 'T' V★S units are simple to install and maintain. Only the drive motor needs to be placed at the machine . . . power unit and operator's control can be located wherever space and convenience permit. These new units utilize Class B insulation . . . resulting in a more compact package. 100% overloads of one minute duration are accomplished without failure.

WRITE FOR NEW RELIANCE V★S BULLETIN Number D-2506. Gives you complete information. Or call your nearest Reliance Sales Engineer for delivery schedules on full line, 1—350 hp. D-1648

RELIANCE ELECTRIC AND ENGINEERING CO.
246A2 CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

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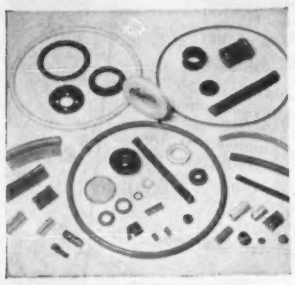
RUBBER
In Design Engineering



Garlock molded, extruded, die-cut, and metal-bonded rubber parts are subjected to over twenty exhaustive tests before and during manufacture to assure they are right for the job. Scientific measurements like these using ASTM methods, plus quality control throughout production, assure you of the finest molded and extruded rubber parts available. Special attention is given compounds which must meet military and SAE-ASTM specifications. Whatever rubber your design calls for, Garlock has the answer for you. Find out more by contacting your Garlock representative, or write Garlock Inc., Palmyra, New York.

GARLOCK

Canadian Division: Garlock of Canada Ltd.

Plastics Division: United States Gasket Company.

Order from the Garlock 2,000 ...two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products

▲ For more details circle **NED-168 F** on enclosed inquiry slip ▲

NoTATS ON PARADE

everyone goes for the "tireless" tire!

CONTINUOUS! NO STOPPAGE!
EASY STEERING!
GREATER TRACTION!
GUARANTEED NO FLATS!

U.S. Patent No. 2,901,020

Everyone gets a "soft", bounce-free ride with NOTATS — the original laminated tire that pays for itself in tire wear. In critical operating conditions — over sharp jagged stones, metal shavings, brick, glass — NOTATS outlast pneumatic tires. Accepted in all industries because NOTATS (the tires with no air chambers) are a-b-s-o-l-u-t-e-l-y *TROUBLE-FREE!*

RECOMMENDED FOR:
Lift Trucks . . . Front End Loaders . . . Tractors . . . Rotary Cutters . . . Cranes. Specified as optional equipment by almost all lift truck manufacturers.

SPECIFICATION:
NOTAT tires are made from precision pads composed of fabric and rubber, banded together with an internal steel band under hydraulic pressure. The formed, continuous resilient unit assures a "soft" ride, long tire life.

Specified as optional equipment by almost all lift truck manufacturers

NO TUBE AIR TROUBLE

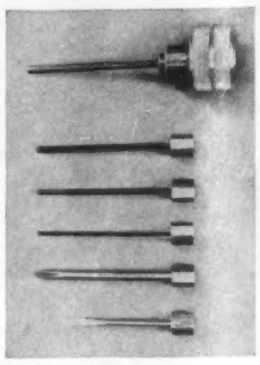
NOTAT TIRE COMPANY
1504 East 34th St. Chattanooga, Tennessee

"Write today for this outstanding industrial pneumatic tire replacement"

"Sold by Materials Handling Dealers Everywhere."

▲ For more details circle **NED-169 F** on enclosed inquiry slip ▲

HANDY TORQUE WRENCH
for socket and other screws



Socket head cap, Phillips, and slotted screws are driven to precise torques in instruments, electronic assemblies, and other delicate products with this torque driver and proper wrench or screwdriver blade. Hex socket screws from No. 0 to ¼ in. can be driven to preset torque without danger of twisting, stripping, or breaking. Various sizes of wrench and screwdriver blades are interchangeable and easily inserted in driving head. Complete set, including torque driver, four wrenches, and two screwdrivers, sells for $9.95. • **Techni-Tool Products, Inc.,** Dept. TW, 3860 W. Slauson Ave., Los Angeles, Calif.

▲ For more details circle **NED-170 F** on enclosed inquiry slip ▲

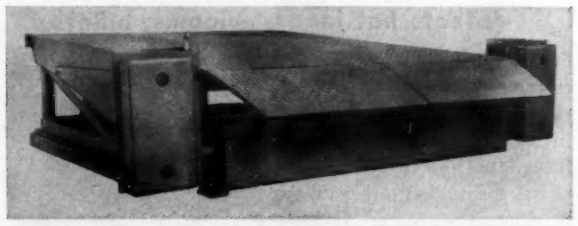
LEAD HAMMER REPAIR
worn types remelted and renewed

Company will accept worn lead hammers with or without handles, melt the lead and remold them, either to existing molds or to particular specifications. Alloy consists of 95 per cent lead, 4 per cent antimony, and 1 per cent copper. Shur-Grip handles can be furnished upon request. • **Lawrence H. Cook Inc.,** 65 Massasoit Ave., East Providence, R. I.

▲ For more details circle **NED-171 F** on enclosed inquiry slip ▲

AUTOMATIC DOCK LEVELER
adjusts to normal truck bed heights

Platform assembly of Model AL-68 Auto-Lip dock leveler is spring counterbalanced and accommodates all normal truck bed heights ranging from 30 in. above



to 11 in. below dock level. Only four anchor bolts are needed for installation in a 24-in. pit. At touch of brake release, leveler swings up to maximum height. At the same time the forward edges or throwover plates, which have been folded down, are raised for engaging truck bed. Stepping on deck lowers unit onto truck bed where it is held by brake. When truck pulls away, throwover plates drop to vertical position. Stepping on deck returns it to cross-traffic position in which it will support up to 10 tons. • **Wayne Pump Co.,** Griffin Street, Ft. Wayne 4, Ind.

▲ For more details circle **NED-172 F** on enclosed inquiry slip ▲

NOW . . . Wilkerson's famous "Atomizer" LUBRICATOR available with EXCLUSIVE NEW KWIK-CHANGE BOWL

No tools needed — no screws, clamps, rings are removed. Simply touching the quick-release lever automatically bleeds air pressure from bowl, and unlocks it. Then turn bowl slightly and it is off in a second!

PERFECTLY SAFE
Bowl can be removed or filled without turning off air.

Complete specifications on the new 3014 series in circular #1028

WRITE TODAY
1633 West Girard
Englewood, Colorado

WILKERSON CORPORATION
Dedicated to keeping the NEW in pNEUmatics

▲ For more details circle **NED-173 F** on enclosed inquiry slip ▲

the penetrating force of...

COLD STEAM CLEANS FASTER, BETTER, CHEAPER

Handle all kinds of cleaning jobs with the greatest of ease with HYDRO-AIR. This gun-type cleaner connects to standard air and hot or cold water supply. Compressed air "breaks" water into minute particles producing a dense penetrating force which blasts heavy dirt or quickly rinses metal sheets and small parts. Operates on 1 H.P. compressor and uses less than 3½ c.f. of air and 3½ gals. of water per minute. Easy to handle — weighs less than 2 lbs. Rubber sleeve protects user's hand when hot water is used.

$11.45

● *NEW . . . Siphoning attachment for application of cleaning solvents — under pressure — on parts, machinery or any difficult surfaces for cleaning.*

HYDRO-AIR PRESSURE WASHER

BLASTS STUBBORN DIRT!
HARMLESS TO FINEST FINISH!

ORDER THROUGH YOUR SUPPLIER — or write direct. (Inquiries invited from industrial cleaning compounders interested in resale.)

D & M PRODUCTS, INC.
26 N. RAYMOND AVE. • PASADENA, CALIFORNIA

HYDRO-AIR is widely used throughout these industries:

Aviation	Construction	Transportation	Meat Packing
Automotive	Pharmaceutical	Railroads	Baking
Food Processing	Paper	Petroleum	Foundries
Brewing	Ship Building	Mining	Jewelry
Dairy Products	Textile	Metalworking	Leather

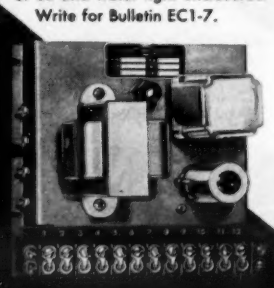
▲ For more details circle **NED-174 F** on enclosed inquiry slip ▲

WEBSTER ELECTRIC *PILOT RELAYS*

You can count on level detection better than 0.10 inch *plus* easy installation and exceptionally low maintenance with Webster PR series pilot relays. These dependable units can be used for single or dual liquid level controls (pump in or out), high or low level alarm, contact meter amplifiers, liquid leak and temperature detectors.

There are no moving parts in the liquid; no stuffing box or bellows. Control may be located remotely from the sensing point — special cable is not normally required. Two models: PR1 medium sensitivity and PR2 high sensitivity. Mounting can be open style for panels, semi-dust tight or oil and water tight enclosures.

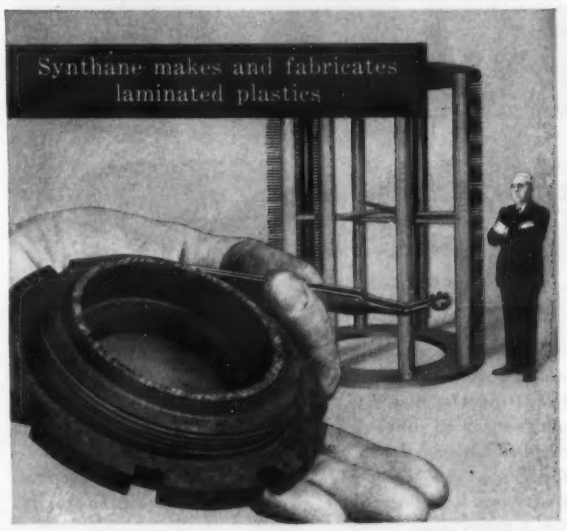
Write for Bulletin EC1-7.



LEVEL DETECTION EXCEEDS 0.10 INCH!

COMPONENTS DIVISION
WEBSTER ELECTRIC
RACINE WIS

▲ For more details circle **NED-175 F** on enclosed inquiry slip ▲



Large, small or in between—we make it

Need a part made of laminated plastics? Makes no difference to us whether it will fit in your palm, on the head of a pin or tower over you, we believe we can handle it.

Remember, we make and control the material to suit your job. We make our own tools, dies, jigs. Our machines, many special, give us a wide choice in machining approach. So let us take production worries off your mind—at the right price for top quality. Write or phone for quotation.

WRITE FOR NEW FABRICATION BOOKLET.

SYNTHANE CORPORATION
N.E. RIVER ROAD, OAKS, PENNA.
Sheets • Rods • Tubes • Fabricated Parts
Molded-laminated • Molded-macerated

SYNTHANE

▲ For more details circle **NED-176 F** on enclosed inquiry slip ▲

GENERAL ELECTRIC

POWER AMPLIFIERS

New high-speed-of-response power amplifiers—now available—offer designed-in characteristics especially suitable as control or power source on high-performance or servo motor systems. Response improved 6 to 8 times over standard ratings. Exceptionally versatile in controlling voltage, current, speed and position on a variety of applications which require fast response. ***Direct Current Motor & Generator Dept., General Electric Company, Erie, Pennsylvania.***

▲ For more details circle **NED-177 F** on enclosed inquiry slip ▲

GENERAL ELECTRIC

SERVO MOTORS

Now direct-current drive motors designed specifically for automatic control systems. New General Electric servo motors with compensated windings offer fast response, low time constant, linear torque per ampere and low inertia. Used with the new G-E power amplifier, servo motors can be applied to improve characteristics of many high performance systems. ***Direct Current Motor and Generator Department, General Electric Company, Erie, Pennsylvania.***

▲ For more details circle **NED-178 F** on enclosed inquiry slip ▲

GENERAL ELECTRIC

MULTIPLE-OUTPUT GENERATORS

A new General Electric multiple-output generator makes it possible to drive several adjustable-voltage loads from a single generator—provides light weight, space-saving generating equipment for several independent drive motions. New design has compensating windings arranged so that independent field windings can control power output on any set of brushes. ***Direct Current Motor and Generator Department, General Electric Company, Erie, Pennsylvania.***

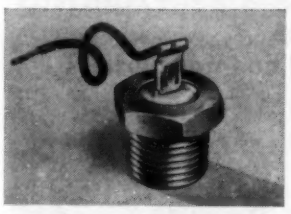
▲ For more details circle **NED-179 F** on enclosed inquiry slip ▲

SHOCK OVERLOAD INDICATOR
checks fragile equipment shipments

Compact, self - contained, and accurate, this shock overload indicator detects excessive shock to delicate equipment during shipping and handling. It can be mounted on equipment in its container. Appearance of a red band discloses occurance of shock. This resettable, mechanical safety device weighs 4 oz, measures 1½ x 1¾ in., and lists for $32. • **Earl S. Condon Co.,** 3450 Wilshire Blvd., Los Angeles, Calif.

▲ For more details circle **NED-180 F** on enclosed inquiry slip ▲

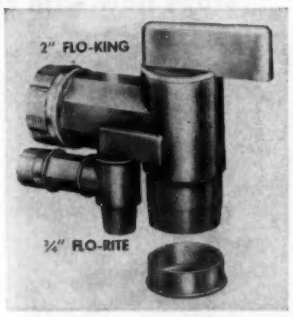
TEMPERATURE CONTROL
installed in engines and compressors



Rapid response, free calibration, sealed construction, and constant thermal and electrical contact are features of this snap - acting temperature control. The vibration resistant unit is used in hydraulic systems, diesel engines, air compressors, and marine engines as a high limit or controlling thermostat. Its temperature setting range is −65 to 325° F, the ambient range is −40 to 300° F, and operating tolerances are: open, ±8° F, close, ±5° F; and differential, 2° F. The single-pole single-throw, normally-open or closed switch is rated 3 amp at 32 v, grounded. • **Therm-O-Stats, Inc.,** Box 303, Chartley, Mass.

▲ For more details circle **NED-181 F** on enclosed inquiry slip ▲

PLASTIC DRUM FAUCET
fits 2-in. opening of 55-gal drum



Instant flow is obtained by a one-half turn of the Flo - King polyethylene drum faucet handle. Fitting in the 2-in. opening of a 55-gal drum, the faucet will empty average contents in slightly over 2 min. It easily handles viscous liquids and will not contaminate or react with chemical products stored in drums. Over-all length of the Jumbo model is 6 in. and weight is 9 oz. Safety factor is five in a 55-gal drum. Photo compares size of previously announced ¾-in. size and the Jumbo model. • **Multi-Meter Corp.,** 1635 Coining Dr., Toledo 12, Ohio.

▲ For more details circle **NED-182 F** on enclosed inquiry slip ▲

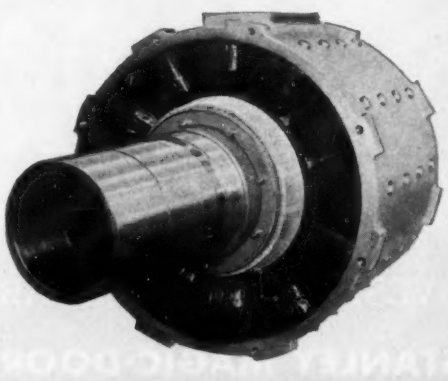
GENERAL ELECTRIC

LOW VOLTAGE MOTORS

New General Electric low voltage, high current drive motors pack more power in smaller frame—are job tailored to meet torque and thermal requirements of a wide variety of battery powered traction, conveyor and lift applications. Typical uses: battery powered trucks, electric vehicles of all kinds; motors for hydraulic pumps, conveyors and lifts. ***Direct Current Motor & Generator Dept., General Electric Co., Erie, Pa.***

▲ For more details circle **NED-184 F** on enclosed inquiry slip ▲

GENERAL ELECTRIC



CUSTOM TAILORED D-C SPECIALS

Pancake-type motors, built-in motors, direct drives and permanent magnet fields are a few of many new General Electric special direct-current rotating machines being developed for modern applications. Designed for special functions, many of these G-E innovations offer important new opportunities for machinery manufacturers to improve product performance and reduce costs. ***Direct Current Motor and Generator Dept., General Electric Co., Erie, Pennsylvania.***

▲ For more details circle **NED-185 F** on enclosed inquiry slip ▲

QUALITY GENERAL ELECTRIC PRODUCTS shown on this page are typical of many d-c specials being developed and built by General Electric to meet industry's dynamic requirements. Within the past 24 months, G.E. has developed ultra-slow-speed motors for gearless direct-drives, underwater propulsion motors and special-purpose contouring drives. Experience gained from these and other developments for more than half a century can be applied to your particular problem quickly and economically. Experienced G-E engineering and manufacturing personnel and modern plant facilities are available to handle—exclusively—the design and manufacture of your non-standard equipment often at a lower cost than standard components with costly modifications. 821-3

If you have a special drive problem, write Direct Current Motor & Generator Department, 3001 East Lake Rd., Erie, Pa.

Progress Is Our Most Important Product

GENERAL ELECTRIC

▲ For more details circle **NED-183 F** on enclosed inquiry slip ▲

LIFT - LOWER - PULL

with The

PORTABLE *"Cadillac"* WINCH HOIST

Capacity

½ Ton —1½ Ton — 2 Ton

It's SAFE! It withstands 50% overload! *Every* hoist is pre-tested to full capacity before it leaves the factory. It is easy to handle because it is made of light weight aluminum alloy with stainless steel shafts and springs. Aircraft cable assembly is replaceable without dismantling. Snap-on reversible handle speeds operation. Distributors in all major cities.

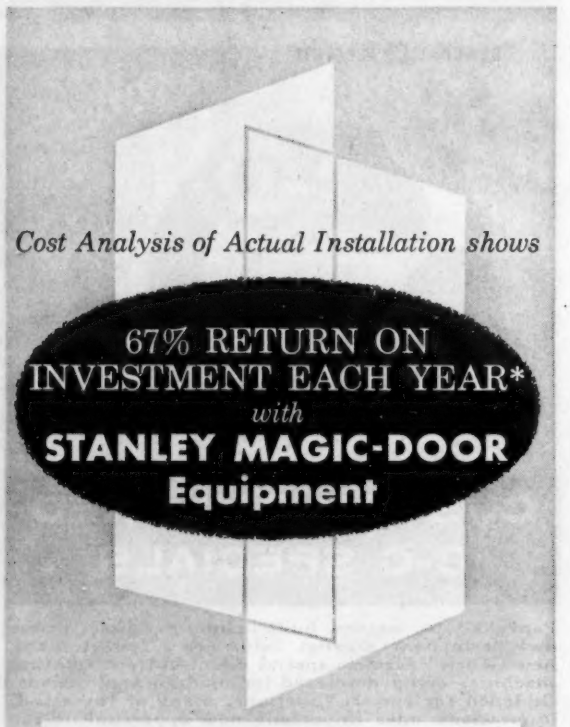
SEE YOUR DEALER TODAY

Full year guarantee against defective workmanship and materials.

ALUMINUM PRODUCTS, INC.

698 S.W. 2nd AVE. ESTABLISHED 1943 FT. LAUDERDALE, FLORIDA

▲ For more details circle NED-186 F on enclosed inquiry slip ▲



**Based on recent study of* MAGIC-DOOR *equipment in automatic operation of double swinging plant doors. Further information on request.*

Returns like this are made possible because MAGIC-DOOR automatic door operating equipment, as a part of a materials handling system . . .

- **controls traffic flow**
- **speeds materials handling**
- **reduces door and equipment damage**
- **minimizes spillage and cargo damage**
- **saves time**
- **conserves warm and cool conditioned air**
- **improves working conditions and employee morale.**

Industrial MAGIC-DOOR® equipment is low-cost. Pneumatic operators are full-powered for both opening and closing. May be used with photoelectric, pull cord, kick plate, floor button or carpet controls.

Write today for data sheets and other information to:

MAGIC-DOOR SALES

Stanley Hardware, Division of The Stanley Works,

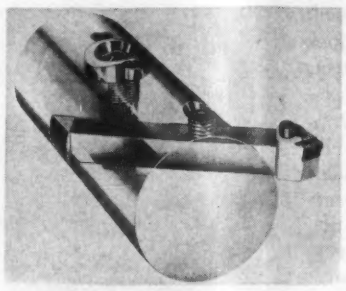
Dept. 58 Lake Street, New Britain, Connecticut

STANLEY

REG. U. S. PAT. OFF.

▲ For more details circle NED-187 F on enclosed inquiry slip ▲

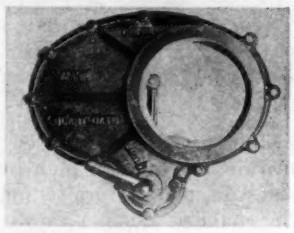
ADJUSTABLE BORING TOOLS have throwaway insert cutters



Cutters with standard throwaway carbide inserts are now available for use in micrometer - adjustable Super - Mike Flycutter tooling. Assemblies are available in stub boring tool sets, stub and line bars, multiple-cutter boring heads, extension boring heads, and other types of Davis tooling. Inserts are interchangeable with standard HSS or carbide Super-Mike cutters. Cutter adjustments are made in increments of 0.0001 in. by means of a direct reading micrometer dial screw. Cutter holds position without backlash or loss of accuracy. • **Giddings & Lewis Machine Tool Co., Davis Div., Fond du Lac, Wis.**

▲ For more details circle NED-188 F on enclosed inquiry slip ▲

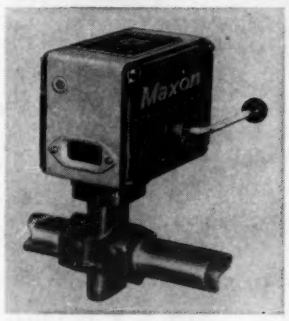
BLAST GATE VALVES control air to oil and gas burners



Being lever actuated, this line of blast gate valves accurately adjusts the flow of low pressure air at any point. Seven sizes from 1½ to 6 in. NPT are presently available for the control of air to oil and gas burners and similar equipment. Airtight valve is held to seat by air pressure and spring tension which takes up wear automatically. • **Mahr Mfg. Co.**, 7444 Girard Ave. S., Minneapolis 23, Minn.

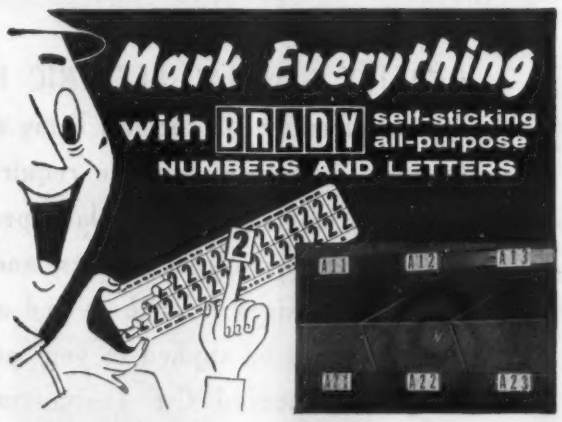
▲ For more details circle NED-189 F on enclosed inquiry slip ▲

SAFETY SHUT-OFF VALVE stops flow with current failure



Gas and oil supply lines leading to burners of industrial boilers, furnaces, ovens, kilns, and other processing equipment are automatically shut off by the Series 800 manual-reset safety shut-off valve upon any break in the electric power or safety circuit. "Guillotine" action assures tight closure. The ¾ and 1-in. sizes are rated at 125 psi, the 1¼-in. size at 100 psi, 1½ and 2-in. at 70 psi, 2½-in. at 40 psi, and 3-in. at 30 psi. Valve handles any clean gaseous fuel or No. 1, 2, or 3 fuel oils. • **Maxon Premix Burner Co.**, 201 E. 18th St., Muncie, Ind.

▲ For more details circle NED-190 F on enclosed inquiry slip ▲



On Blue Streak® Dispenser Cards

If it's to be numbered, marked or identified, this is the low cost, simple way to do it. Brady Numbers and Letters stick instantly, permanently — provide quick identification *in any combination* for areas, columns, aisles, fire stations, pallets, shelves, bins, drawers. Six stock sizes: ½", ¾", 1½", 2¼", 3½" or 5" Black legends on yellow super-strength vinyl-cloth. Specials made to order . . . variety of colors.

WRITE FOR FREE WORKING SAMPLES

W. H. BRADY CO.

Manufacturers of Quality Self-Sticking Industrial Products.

763 West Glendale Avenue • Milwaukee 9, Wisconsin • Est. 1914

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VALUABLE REFERENCE

free 84-PAGE CATALOG

One Complete Source of Detailed Specifications for Designers, Production Managers, Toolroom Foremen

Hundreds of NEW ITEMS

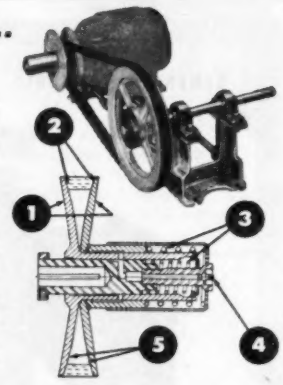
ALL NEW — Complete specifications and cost saving data on over 2000 "Standards", including world's largest line of work-holding equipment, chuck jaw blanks, handles, knobs, wheels, strap clamp assemblies, forged items, plus hundreds of other jig and fixture components. Detailed specifications, engineering drawings. The one complete source for data on all the "standards" for tool, die, jig, and fixture design and application. Write for your FREE copy today.

JERGENS TOOL SPECIALTY CO.

Dept. NE-6, 712 E. 163rd St., Cleveland 10, Ohio

▲ For more details circle NED-192 F on enclosed inquiry slip ▲

feature by feature.. Industry's Most Efficient Variable Speed Pulley



1. **Both sides of the driving disk open simultaneously and equally to give constant belt alignment.**
2. **Power is transmitted through sides of the belt to a grooved sheave to insure maximum efficiency and prevent slippage.**
3. **Each side of the driving disc is independently actuated by its own spring, eliminating ratchets, cogs, gears or other moving parts subject to constant maintenance and wear.**
4. **Oilite bronze bushings on fractional hp. units provide life-time lubrication.**
5. **Curved pulley faces maintain full contact with belt sides at all times, greatly increasing overall efficiency.**

Pulleys are available in a complete range of sizes, fractional to 15 hp. — full 3 to 1 ratio. Immediate delivery from stock.

Request recommendations for your application. Ask for Catalog P-58.

Lovejoy FIRST NAME IN VARIABLE SPEED PULLEYS

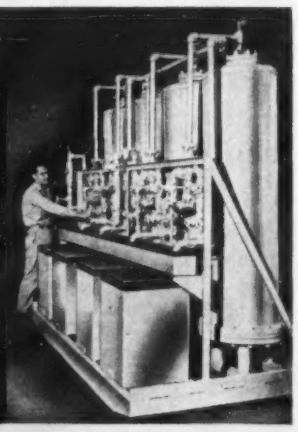
LOVEJOY FLEXIBLE COUPLING CO.

4803 West Lake Street, Chicago 44, Illinois

Telephone: ESterbrook 9-3010

▲ For more details circle NED-193 F on enclosed inquiry slip ▲

BARNSTEAD INDUSTRIAL WATER DEMINERALIZERS



PRODUCING DEMINERALIZED WATER UP TO 2500 GALLONS PER HOUR

Complete line of Mixed-Bed, Two-Bed, and Four-Bed models producing up to 2500 gallons per hour of demineralized water of high purity . . . Special "train" equipment produces 18,000,000 ohms water in production quantities completely free of minerals, organics, bacteria, and submicroscopic particles down to 0.45 micron. Write for NEW Catalog #160.

Barnstead

STILL AND STERILIZER CO.

16 Lanesville Terrace, Boston 31, Mass.

▲ For more details circle NED-194 F on enclosed inquiry slip ▲

WITHSTANDS SEVERE VIBRATION, TENSION, TORSION

Lok-Thred fasteners, widely used on engines and motors, have a larger thread root diameter and wider root surface than the Unified National screw thread. When assembled into a standard American National tapped hole, the Lok-Thred re-forms the female thread to the shape of the entering thread. This produces the equivalent of a perfect selective fit and places the metal of the female thread under high compressive pre-stress.

Thus the Lok-Thred design provides constant locking and sealing action, increased strength in tension and torsion, higher fatigue limits than any conventional threaded part. In addition, Lok-Thred eliminates added bosses and blind tapping, acts as a dowel or taper pin, is fully reusable with equal effectiveness. Write for engineering data.

*Patented

LAMSON & SESSIONS
5000 TIEDEMAN ROAD • CLEVELAND 9, OHIO
Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

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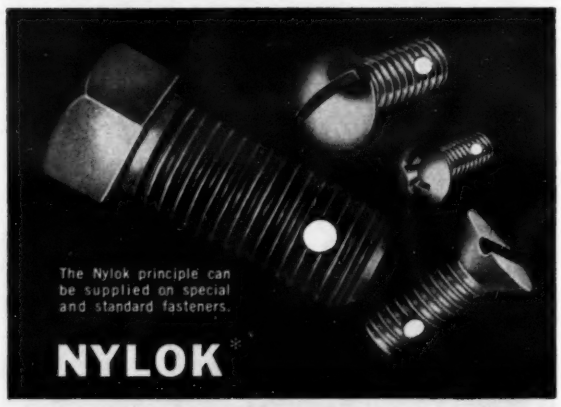

LOCK...SEAL...ADJUST

Locking action is produced by a tough nylon pellet embedded in the fastener body. The pellet projects slightly beyond the thread crest, compresses to set up a counter-force and strong metal-to-metal engagement of threads opposite the pellet. Locking action is *sustained*, takes place whether or not the fastener is seated.

Sealing action is effective, even at elevated temperatures and pressures. The nylon pellet acts as a dam, prevents fluid from entering the gap between non-load-bearing flanks. Nylok fasteners will seal, seated or unseated.

Since the nylon pellet that locks Nylok fasteners is effective seated or unseated, Nyloks make excellent adjustment nuts and screws. Both male and female fasteners stay where you want them, yet adjustments can be easily changed. Write for engineering data.

*Patented

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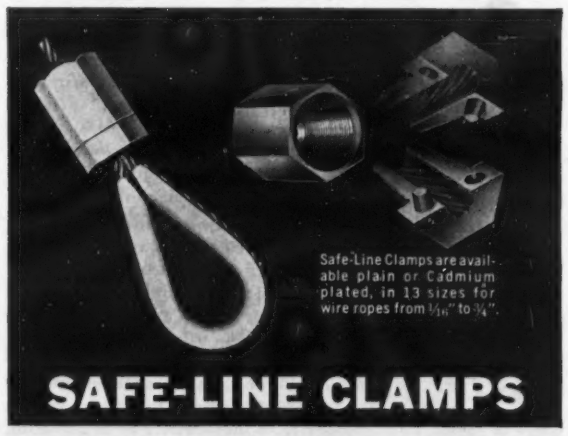

REDUCE ASSEMBLY COSTS

Safe-Line Clamps reduce costs without sacrificing reliability, since only one is needed in place of four or more common clips.

When the nut is tightened, holding contact is complete and firm the full length of the clamp. The clamp's elastic gripping action adjusts to rope "creeping" or changes in stress. And it's fully reusable.

Simple design permits rapid assembly—by vise and wrench on the job, or assembly fixture for quantity production. Sharp wire ends are enclosed, projections are eliminated for safe assembly and disassembly, neat appearance. Write for engineering data.

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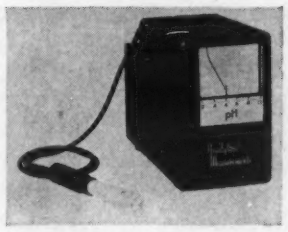
▲ For more details circle NED-197 F on enclosed inquiry slip ▲

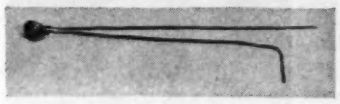
RECORDING pH METER checks acid-alkaline condition



This combination pH (hydrogen ion radical) meter and strip chart recorder will accurately check the acid or alkaline condition of liquids from 0 to 14 pH. The electronic printed-circuit instrument compensates for voltage fluctuations. Connections for a platinum resistance thermometer permit automatic temperature compensation. A 63-ft roll of chart paper will last 31 days at speed of 1 in. per hour. Other chart speeds to 16 in. per hour are obtained with a simple gear change. Switch on panel disconnects chart drive for use as an indicating pH meter only. Coated chart paper records without ink. Price including protected probe is $195. • Analytical Measurements, Inc., 585 Main St., Chatham, N. J.

▲ For more details circle NED-198 F on enclosed inquiry slip ▲

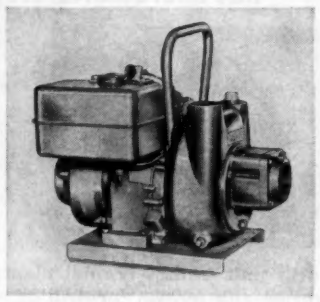
SUBMINIATURE DIODES plastic-encapsulated selenium type



Eight types of subminiature plastic-encapsulated selenium diodes have peak ranges up to 400 v at 3.75 ma. Maximum case length is 0.188 in. with widths ranging from 0.188 in. for the 50 and 100 piv units to 0.35 in. for the 350 piv units. They operate in ambients of −50 to 100° C without derating, and are color coded for identification of type and polarity. Prices range from 13 to 30 cents. • Radio Receptor Co., Selenium Div., 240 Wythe Ave., Brooklyn 11, N. Y.

▲ For more details circle NED-199 F on enclosed inquiry slip ▲

SELF-PRIMING PUMPS offered in two capacities



All cast iron parts of two lightweight, compact, portable Utility pumps are protected inside and out against corrosion and abrasion by Fire-Cured epoxy coating. Lifted and transported by one man, the pumps are powered by an aluminum engine. In less than 90 sec the pumps can be primed and ready to work. Prime is held by a built-in check valve. A non-clogging impeller handles water containing solids, and a removable suction plate facilitates impeller cleaning. Model M-5 has a 5000-gph capacity with 1½-in. suction and Model M-7 pumps 7000 gph with a 2-in. suction. • F. E. Myers & Bro. Co., 424-34 Orange St., Ashland, Ohio.

▲ For more details circle NED-200 F on enclosed inquiry slip ▲

PUT HOLDING POWER INTO THIN, SOFT MATERIALS

Plug Nuts are hardened, threaded inserts designed to be pressed into ductile material. Once inserted, the Plug Nut becomes a self-clinching, pre-placed nut, improving fastenability of thin or soft materials, such as steel, brass and aluminum. Plug Nuts are ideal for blind or hard-to-reach locations, and do not affect flatness of product material.

Plug Nuts are made for use in any thickness of material down to .030" and in any tap size from #4 to ¾". Available in case hardened steel, brass, various grades of stainless and aluminum in a full range of finishes. *Send for samples and application data.*

Distributors: Protected territories for the sale of Plug Nuts are available on a franchise basis

*Patented

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Plants in Cleveland and Kent, Ohio • Chicago and Birmingham

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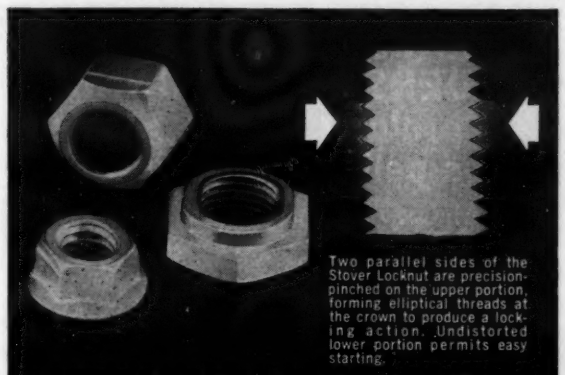

PROVIDE UP TO 33% MORE CLAMPING LOAD

At no increase in torque, Stovers will provide up to 33% more clamping load than comparable standard nuts and competitive locknuts. Or, get normal clamping load with 25% less tightening torque.

Stovers start freely, run up smoothly without galling or seizing. Locking action is sustained, loaded or unloaded. Repeated reassembly produces uniform clamping loads with the original assembly torque. And Stovers are field-tested—car and tractor makers alone used more than 80 million Stovers last year!

Styles: Automation, Flange, Jam (Thin), Finished Hex Collar, Heavy Hex Collar. Three grades: for low carbon, heat treated or alloy steel bolts. Stainless and non-ferrous on special order. Write for 16-page engineering brochure and samples. *Patented

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NEW STRUCTURAL BOLT

Lamson High Strength Bearing Bolt* has highest shear strength, greatest resistance to slip of all structural bolts . . . combines the tensile strength of a High Strength Bolt with the bearing of a rivet.

This new bolt offers decided advantages over High Strength Bolts (which we also manufacture)—yet it costs no more, size for size, when you take into account the cost of required washers.

The High Strength Bearing Bolt has already proved its superiority in critical applications, such as railroad bridges, ore processing machinery and heavy manufacturing mill buildings.

For detailed information, contact Lamson & Sessions or any U. S. Steel Supply Division Steel Service Center. Bulletin and samples on request. *Pat. App. for

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SPEEDS LIQUID HANDLING

BOWSER ESTABLISHED 1885

WHEEL TANK

TRANSPORTS LIQUIDS QUICKLY . . . SAFELY
•
PUMP DISPENSES OR WITHDRAWS LIQUID
•
10 G.P.M. FLOW RATE
•
65 GAL. TANK
•
OIL-RESISTANT HOSE AND TIRES
•
BUILT-IN STRAINERS
•
CLEANOUT PORT

Model 182

. . . one of many Bowser aids for better liquid control. Handles cutting, paint and lube oils, solvents and thinners, and many other plant liquids. Other models include meter and are UL Specification constructed for hazardous liquids. Bowser DIGEST is yours on request . . .

WRITE FOR 50-PAGE INDUSTRIAL DIGEST . . . .
BOWSER, INC., Fort Wayne, Indiana

▲ For more details circle NED-204 F on enclosed inquiry slip ▲

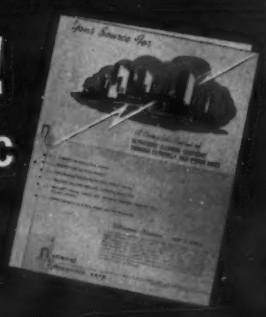
Low Cost ANDERSON STRAINERS prolong life of pipeline equipment

A few dollars spent on Anderson Strainers can eliminate costly repairs and replacements of pipeline equipment. Mesh type stainless steel screens lengthen the time interval between cleaning. Strainer bodies are made of cast semi-steel, withstanding steam operating pressure of 250 P.S.I. and maximum temperatures of 450° F. You'll like them! Write for Bulletin #34 today.

THE V. D. ANDERSON COMPANY
division of
INTERNATIONAL BASIC ECONOMY CORPORATION
1988 West 96th Street • Cleveland 2, Ohio

▲ For more details circle NED-205 F on enclosed inquiry slip ▲

FREE! ULTRASONIC CLEANING BULLETIN



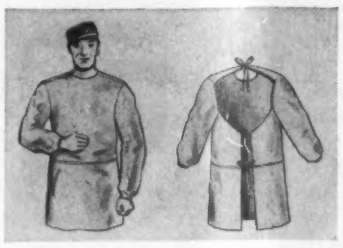
Describes National Ultrasonic Corporation's:

- Applications Laboratory service. Your sample parts are cleaned ultrasonically and equipment and cost recommendations are made at no charge.
- STANDARDLINE medium power cleaners for all applications requiring average energy levels.
- HEAVYDUTYLINE high power cleaners for industrial applications requiring high energy density.
- NUclean solvents and detergents especially formulated for ultrasonic cleaning.

NATIONAL ULTRASONIC CORP.
111 Montgomery Ave., Irvington 11, N. J.
ESsex 1-0550 • TWX NK 1030

▲ For more details circle NED-206 F on enclosed inquiry slip ▲

DISPOSABLE CLOTHING protective type is flame resistant



Problem of difficult or impossible-to-remove epoxy coating, resins, glues and other products on work clothing is solved by using Tempora line of disposable protective clothing. Made of a lamination of cloth and fiber, it has good wearing qualities, and is soft and pliable. Clothing is disposed of when badly soiled. Capes with sleeves, big aprons, and sleeves offered are tear and flame resistant, cool to wear, and low in price. • **Singer Glove Mfg. Co.**, 860 W. Weed St., Chicago 22, Ill.

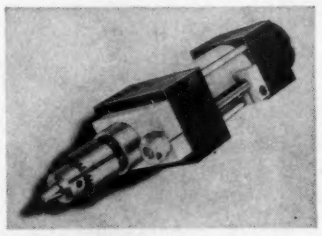
▲ For more details circle NED-207 F on enclosed inquiry slip ▲

HARDNESS GAGE for rubber and plastics

Hardness in Durometer units that comply with ASTM specifications is indicated on the Model 1500 hardness gage for rubber, plastic, and similar materials. Its vernier reads directly to 5 points which permits interpolation to 2 points with average vision. It has a hardened steel indentor, is easily used and read, and weighs 1½ oz. Price is $59.50. • **Rex Gauge Co.**, Box 46, Glenview, Ill.

▲ For more details circle NED-208 F on enclosed inquiry slip ▲

PNEUMATIC DRILL UNIT has micrometer stop adjustment



Model 150 pneumatic drill unit is now equipped with a micrometer stop which allows operator to adjust and hold depth adjustments to 0.0005 in. A lock maintains the setting. The compact drill unit utilizes normal plant air pressure to provide thrust and motion for drilling, tapping, reaming, spinning, burnishing, and milling on metal, wood, or plastic. It also adapts for automatic and semiautomatic single spindle, multispindle, and multiplane machining. Drill is available in 1½, 3, and 6 in. strokes and can be controlled by solenoid, hand, or pilot valving to suit requirements. Prices start at $89.40. • **Alkon Products Corp.**, 200 Central Ave., Hawthorne, N. J.

▲ For more details circle NED-209 F on enclosed inquiry slip ▲

We'll Cancel the Invoice

if OSPHO® Doesn't Do What We Say

Order 5 gallons of OSPHO. Try it on any rusted metal. We'll cancel the invoice if OSPHO does not kill the rust . . . stop rust action . . . provide a sound base for your regular maintenance paint.

OSPHO is *not* a primer, *not* a paint. It is a phosphoric metal treatment that changes rust (iron oxide) to iron phosphate—a perfect surface for paint coat that follows. A gallon treats up to 600 sq. ft.

Brush or spray OSPHO right on rusted metal.

READ, FILL-IN AND MAIL THE COUPON

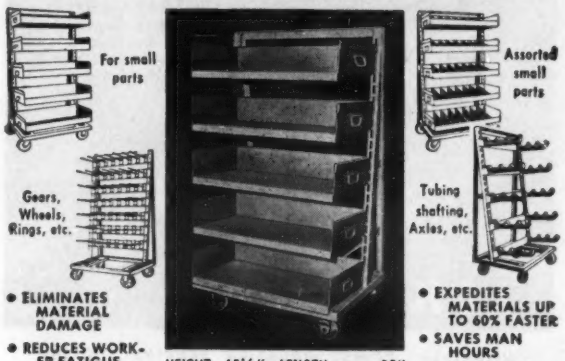
RUSTICIDE PRODUCTS CO.
3131 Perkins Ave. • Cleveland 14, Ohio

Ship us 5-gal. pail of OSPHO @ $3.40 per gal. (F.O.B. Cleveland). If it does not do what you claim, we'll notify you within 30 days of receipt. You will cancel the invoice.

Name_____ Title_____
Company_____
Address_____
City_____ Zone_____ State_____

▲ For more details circle NED-210 F on enclosed inquiry slip ▲

THE VER-T-RACK
THE ACME OF VERSATILITY



- ELIMINATES MATERIAL DAMAGE
- REDUCES WORKER FATIGUE
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT—65½" LENGTH — 35"
WIDTH — 24" CAPACITY 2000 lbs.

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- GREATER SAFETY FACTOR

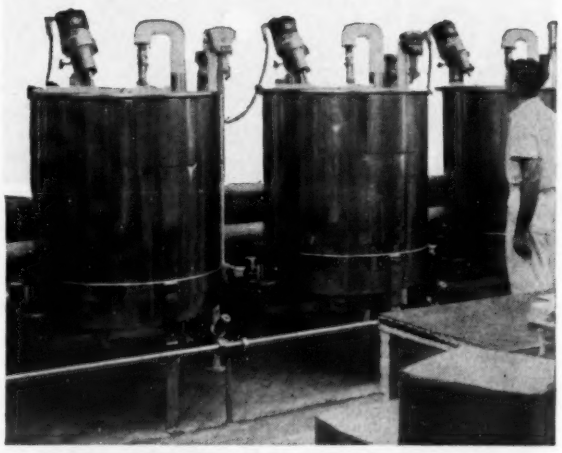
Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck.
Trays are adjustable on VER-T-RACK
PRICE — $49.50 Varied Accessories Extra
Slightly higher west of the Rockies Write today for descriptive literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13, OHIO

▲ For more details circle NED-211 F on enclosed inquiry slip ▲

Get fast, uniform mix *for your product*



Handle fluid mixing jobs rapidly with this simple add-a-unit system

MANY OTHER TYPES for permanent mounting on open or closed tanks of any size. For facts on complete line, request illustrated Catalog B-109.

Speed up your mixing operations! Clamp a LIGHTNIN Portable Mixer on your open tank or container and you've got a low-cost mixing vessel.

So flexible—mix, blend, stir . . . make up heavy slurries . . . dissolve fine powders . . . do any of hundreds of mixing jobs at the flip of a switch. Capacity growing? Just add more LIGHTNINs as you need them!

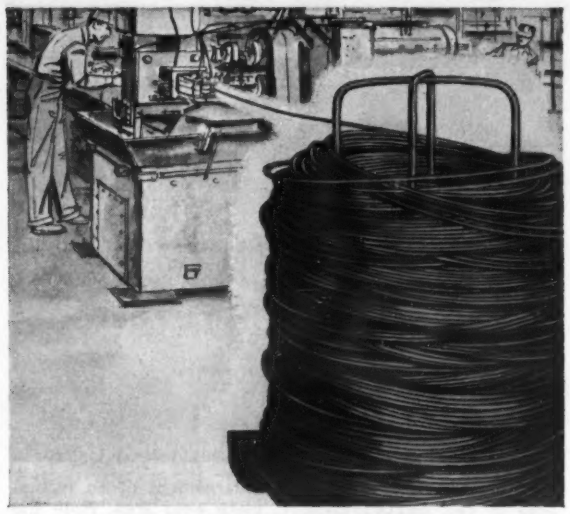
Get exact mixing action you need—turbulent or gentle, slow roll or rapid double-action top-to-bottom turnover—for thorough mixing in shortest time. Your results are *unconditionally guaranteed.*

Mixer locks instantly at any position. True-running shaft is quickly removable; cannot loosen or jam in service. Widest choice of ball-bearing motors. Thirty portable models to choose from: direct or gear drive, electric or air driven; sizes ⅛ to 3 HP. **For details,** request 28-page illustrated Catalog B-108.

Lightnin® Mixers
MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-F Mt. Read Blvd., Rochester 3, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.

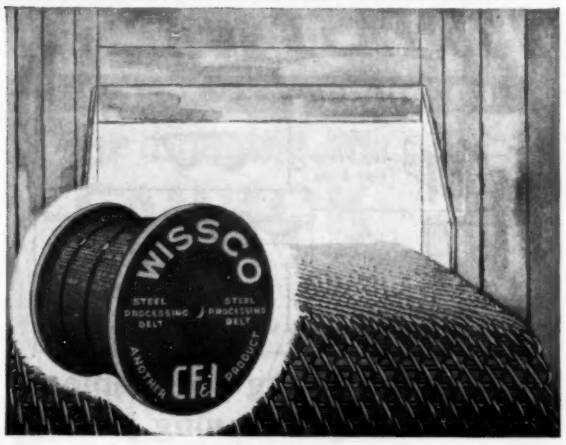
▲ For more details circle NED-212 F on enclosed inquiry slip ▲



CF&I WIRE
Packaged for your production

These new Stem-Paks® are especially useful for continuous operations. Hold from 500-1000 pounds of wire in one coil. Large variety of styles, types and finishes available. Write for Wire Bulletin W-212 on Stem Paks. 7669

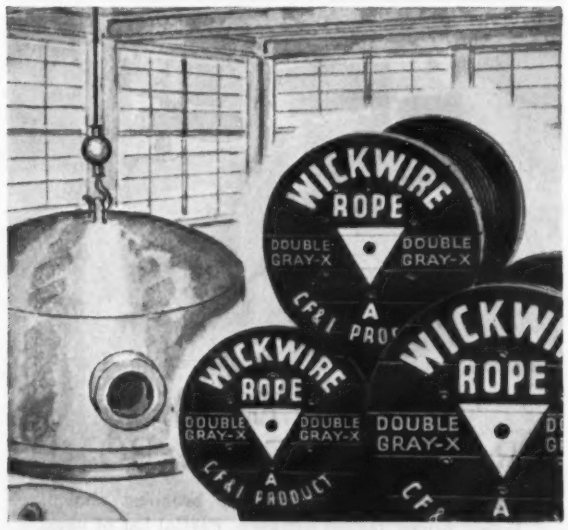
▲ For more details circle **NED-213 F** on enclosed inquiry slip ▲



CF&I Process-Conveying Belts
Heat and corrosion resistant

CF&I-Wissco Woven Wire Belts are made in a wide range of metals and specifications, for either friction or chain edge drive. Open-Mesh construction allows uniform circulation of air, gases or liquids. Write for Catalogs MS-606 and 607. 7671

▲ For more details circle **NED-214 F** on enclosed inquiry slip ▲



CF&I-WICKWIRE WIRE Rope
New discovery lengthens rope life

Double Gray®-X developed from CF&I's extra-strong Double Gray®, has a *significantly longer service life.* Get further information in CF&I's "Advance Progress Report". For details and performance data on all Wickwire Ropes, write for catalog WR-704. 7680

▲ For more details circle **NED-215 F** on enclosed inquiry slip ▲

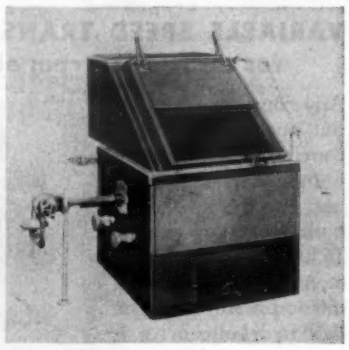
PIN REMOVING PUNCH
does not damage pin or hole

Twelve sizes of Pilot punches are used to speed up spring or roll pin removal by driving the pin completely through the hole, without the punch sticking.

Tool does not damage pin or wall of hole. Sizes match all standard pin diameters and lengths. • **Mayhew Steel Products, Inc.**, Shelburne Falls, Mass.

▲ For more details circle **NED-216 F** on enclosed inquiry slip ▲

INCINERATORS
can be shipped without refractories



To save shipping costs, Winnen incinerators may be specified complete except for the refractory lining. Local masons can be engaged to build the lining with standard fire brick and heat resistant mortar. Estimated savings on total cost by reduced shipping weight is 25 to 65 per cent, depending upon the model and distance shipped. Standard styles and sizes, plus special models, are available. • **Winnen Incinerator Co.**, 932 Broadway, Bedford, Ohio.

▲ For more details circle **NED-217 F** on enclosed inquiry slip ▲

STORAGE RACKS
beams adjustable on 2-in. centers

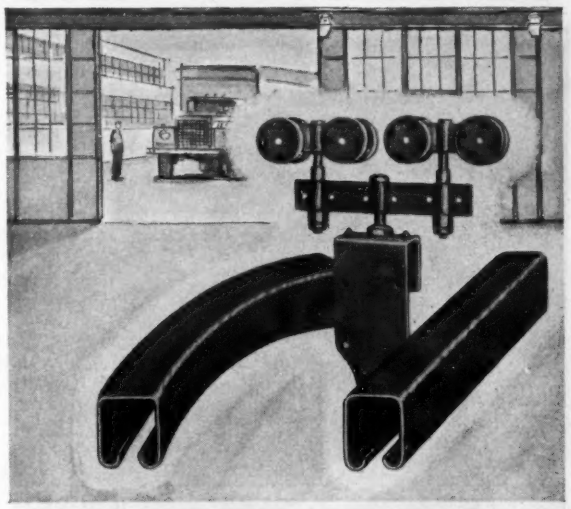
Cold formed 3 x 3-in. steel columns and 1½ x 1½-in. front-to-back and diagonal bracing comprise the frame of the AIM slotted angle storage rack. Beam adjustment on 2-in. centers is facilitated by stamped reference markings. Metallic base paint finished standard frame has a capacity of 23,000 lb and the heavy duty frame has a 30,000-lb capacity. A 7/16-in. steel safety locking bolt holds the beam in place and, once locked in place, it cannot be disengaged accidentally. Rack is usable for storage of materials on pallets or skids, or for storing dies, drums, pipe, and tubing. Stock heights range from 6 to 12 ft in 1-ft increments; depths are 28, 32, 36, and 44 in. Beam lengths are 42, 46, 54, 70, 82, 94, 106, and 120 in. Other sizes can be specified. • **Acme Steel Co.**, 135th Street & Perry Avenue, Chicago 27, Ill.

▲ For more details circle **NED-218 F** on enclosed inquiry slip ▲

CF&I Industrial Wire Cloth
Versatile Industrial Material

A thousand and one uses, from fine mesh filters to large machinery guards. CF&I Wire Cloth has square, even mesh that remains accurate, gives long service. Available in many materials and a variety of weaves. Write for Catalog MS-661 Rev. 7667

▲ For more details circle **NED-220 F** on enclosed inquiry slip ▲



7670

CF&I-COBURN Products
A complete source of supply for . . .

Sliding Door Hardware for simplest handling of industrial doors; Fire Door Hardware, made under supervision of Underwriters' Laboratories, Inc.; and Overhead Monorail Systems for improved materials handling. Write for Catalogs HPC-351, 353, 354.

▲ For more details circle **NED-221 F** on enclosed inquiry slip ▲

CF&I . . . Steelmaster for America

A nation-wide steel company, employing American labor and producing many of the steel products used by American industry . . . these are some of the meanings symbolized by the CF&I Image.

CF&I facilities include integrated mills and product manufacturing plants in major industrial areas; and sales offices in all principal cities. Over 40 well-stocked warehouses from coast to coast assure you quick and efficient delivery on all your orders.

Discover the range and diversification of CF&I Steel Products. Write for free Catalog G-50 Rev. Then, for more detailed information and service, contact a local CF&I sales office.

Plants at: Pueblo, Colo. • Oakland and South San Francisco, California Buffalo, N. Y. • Claymont, Delaware Palmer, Massachusetts • Birdsboro, Pennsylvania • Roebling, New Jersey Trenton, New Jersey 7666

CF&I STEEL

THE COLORADO FUEL AND IRON CORPORATION
DENVER • OAKLAND • NEW YORK

▲ For more details circle **NED-219 F** on enclosed inquiry slip ▲

For the intimate MIXING of floury, powdery, granular and fibrous materials

Write for Bulletin 128.

SPROUT-WALDRON

HORIZONTAL BATCH MIXERS

This equipment loads, blends, and discharges rapidly . . . is sanitary, dustless. Handles dry and damp materials . . . and liquids can be added. Ideal for the rapid, intimate mixing of small percentages of critical ingredients with a large bulk of basic material. Sizes from 1 cu. ft. to over 1,000 cu. ft. Construction materials and discharge gates to meet all applications. Available with heating, drying, and cooling attachments. Can be "adaptioneered" for special needs.

Sprout-Waldron also offers a complete line of vertical mixers. Write for details.

IN/496

SPROUT-WALDRON
— Manufacturing Engineers Since 1866 —
LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

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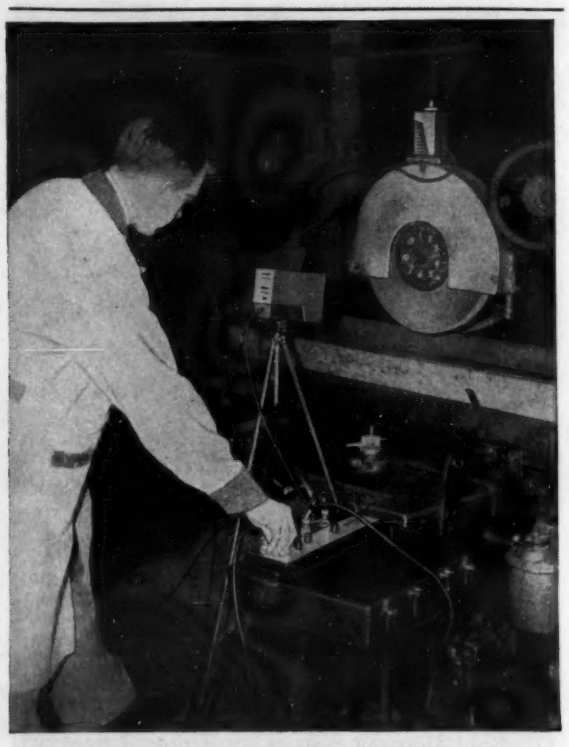


PORTABLE STEWART-WARNER INDUSTRIAL BALANCER

ECONOMICAL...EVEN FOR THE SMALLEST SHOP!
OFFERS EASY, ONE-MAN OPERATION

In-Place Precision Balancing—of all rotating machinery. Quickly indicates the angle and amount of unbalance by means of meter and stroboscopic light. High sensitivity—adjustable from below 10 millionth of an inch to over $\frac{1}{10}''$ - $\frac{1}{8}''$ amplitude of vibration.

Provides finer finishes and greater tolerances . . . prolongs life of wheels, prolongs hours between dressings. Ideal for blowers, fans, grinding wheels, turbines, motors, spindles—all rotating machinery.

Stewart-Warner Also Offers a Complete Line of Permanently Installed Cradle Type Balancers

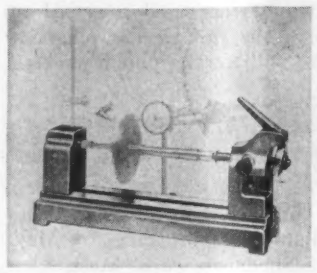
Write for your FREE catalogs!

Symbol of SW Excellence

STEWART-WARNER CORPORATION
INDUSTRIAL BALANCER DEPARTMENT
Dept. SS-60 1850 Diversey Parkway, Chicago 14, Ill.

▲ For more details circle NED-223 F on enclosed inquiry slip ▲

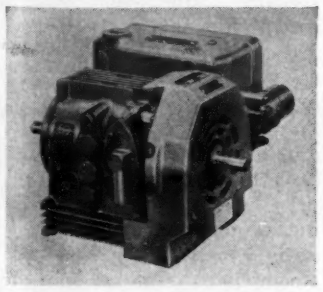
BENCH CENTER for production line inspection



Designed for use with all standard indicator rods and attachments, this low cost bench center is suited for production line inspection of machined parts, stampings, and assemblies. It is adjustable from 0 to 10 in. and has a fixed removable head center and a locking spring travel on its tailstock. Device is of cast Meehanite construction. • **Quality Gage Co.**, 968 E. 69th Place, Cleveland 3, Ohio.

▲ For more details circle NED-224 F on enclosed inquiry slip ▲

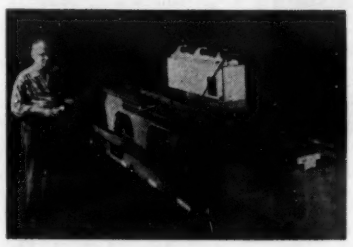
VARIABLE SPEED TRANSMISSION for up to 1650 rpm either direction



Any constant speed input up to 1750 rpm is converted into an infinitely adjustable output speed in one or both directions up to 1650 rpm by this midget Any-Speed transmission. Integral in this hydraulic drive is a gear pump for supercharge, control, and auxiliary service; a cooling fan; reservoir; and overload relief valve. It is suited for loads up to 1 hp. Torques are 62 lb-in. starting, 45 lb-in. normal, and 67 lb-in. peak. Optional standard remote or direct controls include manual, automatic, and closed loop types. • **Oilgear Co.**, 1571C W. Pierce St., Milwaukee 4, Wis.

▲ For more details circle NED-225 F on enclosed inquiry slip ▲

BATTERY-POWERED LIFT MAGNET handles up to 8000-lb loads



This battery-powered 8000-lb capacity Model 80 lift magnet for indoor and outdoor material handling operations is self-contained. Remote control is available for ease and safety in handling large parts or for operating magnet from floor, driver's seat in lift truck, or crane cab. Even odd-shaped ferrous parts are easily handled. In addition to the automotive type storage battery, it has an operating switch, recharge-indicating ammeter, and a polarized receptacle for a trickle charger. • **Sundstrand Corp.**, Sundstrand-American Broach Div., Ann Arbor, Mich.

▲ For more details circle NED-226 F on enclosed inquiry slip ▲

Free Sample Tube

Industry's NEWEST Production TOOL

MOLYKOTE® G LUBRICANT

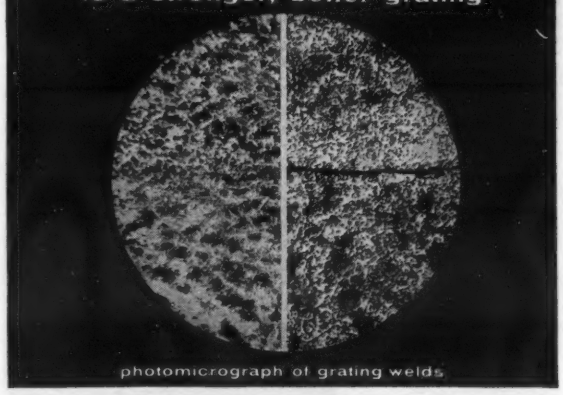
- ALMOST 100% SAFETY AGAINST GALLING AND SEIZING WITH ALL BEARING METAL COMBINATIONS
- ELIMINATES STICK-SLIP, METAL PICK-UP AND DISTORTION IN PRESS FITTING
- REDUCES WEAR-IN TIME AND DAMAGE IN NEW OR REBUILT MACHINERY
- THE HIGHER THE LOADS, THE GREATER THE MARGIN OF SUPERIORITY OF MOLYKOTE G

Write for your free sample of MOLYKOTE G LUBRICANT today. We will also send you a copy of our new Bulletin 126 which gives complete details. THE ALPHA-MOLYKOTE CORPORATION, 65 Harvard Avenue, Stamford, Conn. Phone Fireside 8-3724. Plants in Stamford, Conn., Munich, Germany and Strasbourg, France.

THE ALPHA-MOLYKOTE CORP.
65 Harvard Ave., Stamford, Conn.
Please send me a free sample of your MOLYKOTE G Lubricant.
NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

▲ For more details circle NED-227 F on enclosed inquiry slip ▲

why TRU-WELD is a stronger, better grating



This enlargement of the weld area in TRU-WELD grating shows how solidly the metals have joined. They are fused into a moisture- and vibration-proof weld.

Enlargement of an incomplete weld area. Note the line of separation between bearing bar and crossbar. Heavy traffic and vibration can separate such a weld.

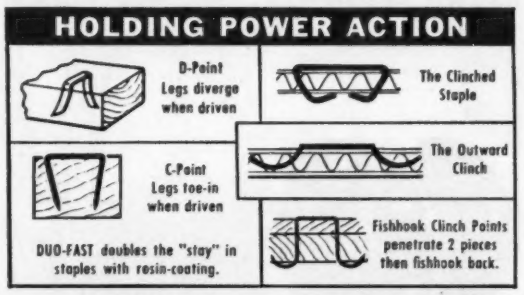
Complete stocks maintained at Jos. T. Ryerson Service Centers. For more information on this new, stronger grating, call the Dravo representative in your area, or write DRAVO CORPORATION, Pittsburgh 25, Pa.

DRAVO CORPORATION

▲ For more details circle NED-228 F on enclosed inquiry slip ▲

DUO-FAST STAPLES

HOLDING POWER ACTION



A complete range of staples for every fastening job

Whether it's crating, carton assembly, industrial packaging, woodworking jobs, or a thousand other uses, you'll do it better, faster, at lower cost with DUO-FAST Staples.

You get exactly the staple you need because DUO-FAST comes in a wide range of wire sizes, finishes, crown widths, points and lengths . . . from $\frac{5}{32}''$ to $1\frac{1}{2}''$.

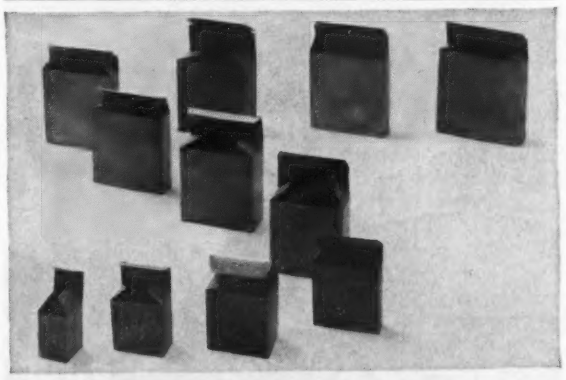
Your DUO-FAST man can show you how DUO-FAST Staples team up with DUO-FAST Tackers, Staplers and Nailers to cut costs and increase your production.

Write for DUO-FAST catalog and the address of your DUO-FAST man.

DUO-FAST / FASTENER CORPORATION
3758-60 River Road
Franklin Park, Ill.

0439

▲ For more details circle NED-229 F on enclosed inquiry slip ▲



64 SIZES IN KRAFT FOLDING BOXES

Extra large inventory assures broadest choice, lowest prices, fastest delivery. Partial list of uses, includes machine parts, metal parts, plastic parts, bearings, auto parts, nursery products, hardware. Sizes range from $\frac{7}{8}''$ x $\frac{7}{8}''$ x 1" up to $5\frac{3}{4}''$ x $5\frac{1}{4}''$ x 7".

Ask for free samples, with sizes and price list.

Spark* makes the difference

STONE CONTAINER Corporation
4200 West 42nd Place, Chicago 32, Illinois

* Stone Packaging And Research Know-how

▲ For more details circle NED-230 F on enclosed inquiry slip ▲

LYON® SERVICE CARTS

2 SIZES

30″ long
16″ wide
32″ high

•

36″ long
24″ wide
32″ high

MADE OF LIFETIME STEEL

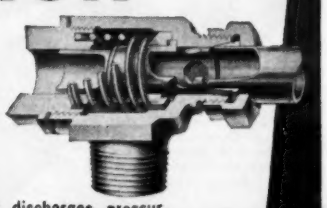
Save steps and time in material handling. Have 5″ diameter composition rubber wheels—2 stationary and 2 swivel. Formed steel tube push bar. 3″ deep, pan type trays. Lyon Gray baked-on enamel.

Write for free 92-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-231 F on enclosed inquiry slip ▲

split-second air dumping with... FAWICK quick release valves



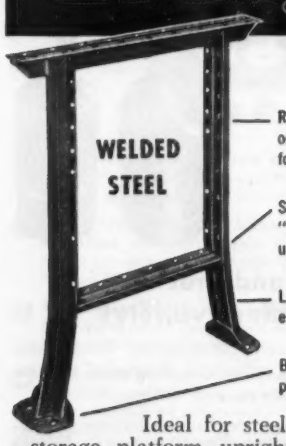
- Instantaneously discharges pressurized air from any pneumatic pressure system
- Fast, positive valve actuation by pressure differential
- Precision built, self cleaning, never needs lubrication
- Available in ⅜″ to 1″ sizes (outlet pipe thread)

Specify them for "quick-release" of pressurized air.

FAWICK AIRFLEX
FAWICK AIRFLEX DIVISION
FAWICK CORPORATION
9919 Clinton Rd., Cleveland 11, Ohio
In Canada, Fawick Canada, LTD., Toronto

▲ For more details circle NED-232 F on enclosed inquiry slip ▲

LYON® BENCH LEGS



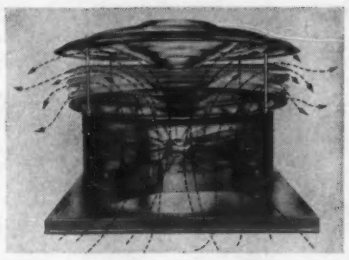
Ideal for steel and wood top benches, storage platform uprights, machine mountings. Legs have 24 square inches of floor bearing surface. Lyon Gray baked-on enamel. Two sizes: 28″ deep, 32¼″ high and 34″ deep, 32¼″ high.

Write for free 92-page Lyon Steel Equipment Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-233 F on enclosed inquiry slip ▲

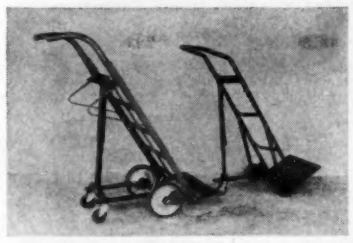
POWER ROOF EXHAUSTER damper lifted by discharged air



When the fan of the PRE model Genie-Air power roof exhauster is turned off, its Divertco-Damper closes the exhaust opening with a weather-tight seal. The spun aluminum damper is automatically lifted by the column of discharge air and seated against the Weather-Dome cover which diverts the air flow radially for full-circumference discharge. Dome support and damper rods are neoprene coated for a smooth, gliding operation. • **Genie-Air, Inc.**, Box 39691, Los Angeles 39, Calif.

▲ For more details circle NED-234 F on enclosed inquiry slip ▲

HAND TRUCK SUPPORT is retractable third-wheel unit



Two-wheel hand trucks are readily converted into safe, easy-to-use, self-supported units by this retractable third-wheel Truxaid caster assembly. Hand operated lever at the truck handle actuates lock pin and permits locking truck at any desired angle. Single swivel caster unit is for light to medium service, and two caster model handles heavy loads. • **Sierra Mechanical Products Co.**, 47 E. Montecito, Sierra Madre, Calif.

▲ For more details circle NED-235 F on enclosed inquiry slip ▲

LINT-FREE COVERALL made in men's and woman's sizes

Static-free and acid-resistant coverall is made of lint-free white herringbone Dacura, a blend of polyester fiber and rayon. Wearable in dust-free rooms and for other special applications, it has no pockets. Garment shown has elastic inserts at wrists and ankles, two-way heavy front zipper, action pleated back, and double stitched construction. Men's and women's sizes are also offered in tan nylon taffeta for economical lint protection. Garment is available for direct purchase or on a rental basis. • **Angelica Uniform Co.**, 1427 Olive St., St. Louis 3, Mo.

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TEN ENGINEERING MANUALS

that will help you reduce cost and improve your products

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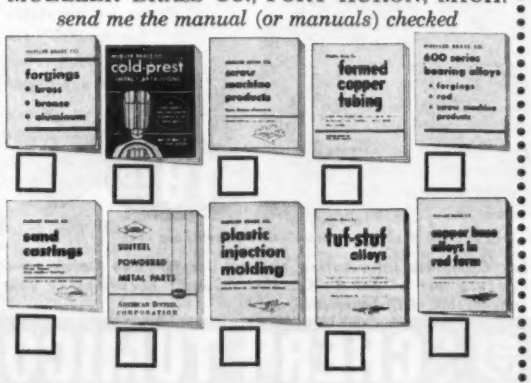

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MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

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LYON® SLIDING SHELF SHELVING

8 STANDARD SECTIONS

Adjustable to meet Specific Needs

Shelves slide into upright slots on 1½″ centers and automatically lock in place. Flush front shelf boxes — adjustable dividers easily adjusted without nuts, bolts or springs. Sections are 37⅜″ wide, 12-5/16″ deep, 84″ high. Durable steel finished in gray, green or taupe baked-on enamel. Units are shipped knocked down.

Write for free 92-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

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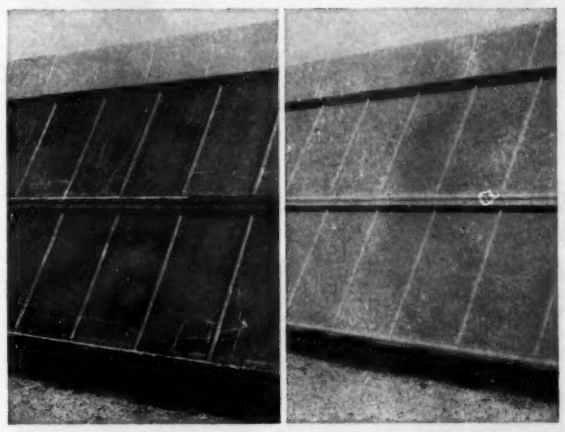
BEFORE AFTER



Replace cracked glass with Structoglas

Don't put up with cracked glass. Put up *shatterproof* Structoglas fiberglass panes—*end breakage for good.* Tinted Structoglas lets in free natural light without glare. No painting needed; resists fading and erosion. Easy to install with ordinary glazing methods. Glaze once and for all with Structoglas.

Write for detailed literature

structoglas®

Structoglas Inc., Dept. 606, Cleveland 20, Ohio 5906

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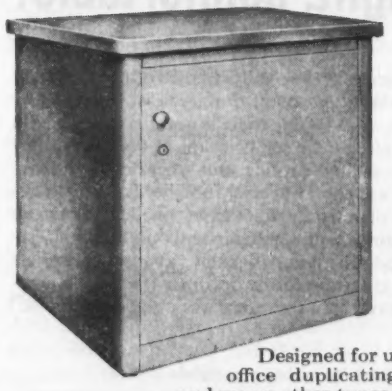
LYON® OFFICE MACHINE CABINETS



27″ WIDE
21″ DEEP
29″ HIGH

Designed for use with most office duplicating equipment and many other types of machines. Cabinet has one adjustable shelf and built-in lock for storing supplies safely. Finished in durable baked-on gray enamel. Top has special acid-resisting finish. Equipped with glide type feet. Casters also available.

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LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
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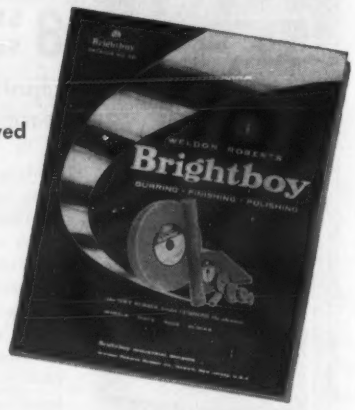
GET THE NEW, COMPLETE PICTURE

on MULTI-USE, SOFT RUBBER BONDED ABRASIVES —THE ONLY COMPLETE, COMPREHENSIVE STOCK LINE!

The revealing new medium for achieving bigger savings, improved product quality, in metal-working.

The revolutionary new concept of abrasive uses!



Write for new Brightboy Catalog listing "Job-Matched" grains & textures; machine speeds, refreshing methods and applications.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street
Newark 7, N. J.

America's Pioneer Manufacturer of Rubber-Bonded Abrasives

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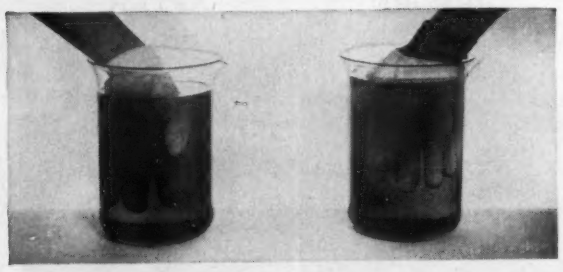
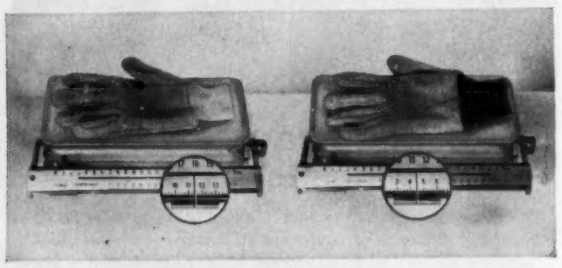


Here is an untreated terry cloth glove being soaked in oil.

Here is an oil-repellent Oilmac glove getting the same treatment.



Now we weigh the untreated glove. It is oil soaked and soggy, weighs a full 11 ½ ounces. Not very comfortable to wear!

But the Oilmac has only surface oil, weighs a mere 4 ½ ounces. Both gloves weighed 2 ½ ounces before being immersed!

Proof: Untreated gloves soak up oil...new Oilmacs stay light, comfortable!

Now you've seen it! Specially treated Oilmacs really repel oil . . . stay light, comfortable, flexible even after *soaking* in oil. Mind you, there's nothing wrong with the untreated gloves: we sell carloads of them, and they are fine for most applications. But where oil is a problem, Oilmacs are the answer! Moreover, new Oilmacs are far more cut resistant than expensive leather gloves . . . can be reconditioned with virtually no loss in oil resistance . . . and are interchangeable, so any two make a pair, any pair gives you four working surfaces. Write today for literature about these new work gloves by Jomac!

Jomac also makes a complete line of North PVC Coated Gloves and Wet Weather Garments

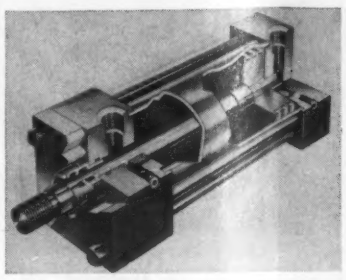
JOMAC

Jomac Inc., Dept. G
Philadelphia 38, Pa.

"Jomac Sells Quality . . . and Quality Sells Jomac!"

▲ For more details circle NED-242 F on enclosed inquiry slip ▲

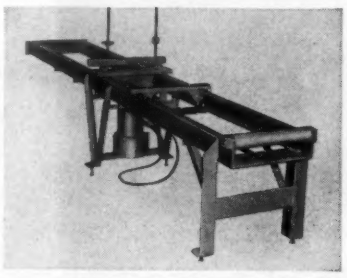
HYDRAULIC CYLINDERS
1-8 in. bore sizes rated 1000 psi



Series L power cylinders for medium-high pressure hydraulic service comprises 1 through 8-in. bore sizes, all of which are designed to operate at 1000 psi pressure. The square head, tie-rod type units have case hardened and hard chromium plated piston rods, drip-free rods, and leakproof ports. Mountings can be chosen from 14 different styles. • **Hannifin Co.**, Power Cylinder Div., Dept. 128, 501 S. Wolf Rd., Des Plaines, Ill.

▲ For more details circle NED-243 F on enclosed inquiry slip ▲

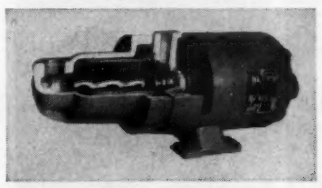
AUTOMATIC BAR FEED
for metal cutting band saws



Self-contained, hydraulically driven BFH-24 bar feed handles a 10-ft bar in automatic cycles with a maximum feed of 14 in. per cut without resetting. The heavy duty unit is for use on Model W-9, F-14, and J-24 horizontal metal cutting band saws. It is quickly set up for duplicate cuts of identical length and does not interfere with hand operation of the saw. Unit is 10 ft long, 2 ft wide, and its bed height is adjustable from 25 to 26 in. • **W. F. Wells & Sons, Inc.**, Three Rivers, Mich.

▲ For more details circle NED-244 F on enclosed inquiry slip ▲

COOLANT PUMP
delivers clear, nonfoaming flow



Positive displacement PresSure Kool coolant pump utilizes the Moyno principle in which a helical screw rotor turns in a stator to deliver coolants or cutting oils at one or more constant pressures. Clear, nonfoaming coolant is delivered without constant manual control of flow. The pump drive starts automatically with the machine, but it can be integral with or separate from the machine drive. Outlet design makes possible operation of several delivery lines simultaneously under differing, but constant pressures. • **Associated Engineers, Inc.**, Products Div., Box 1628, Springfield, Mass.

▲ For more details circle NED-245 F on enclosed inquiry slip ▲

NEW MAUSER VERNIER CALIPER

STAINLESS STEEL HARDENED THROUGHOUT
FULLY LUSTRO-CHROME SCALE AND VERNIER

For Outside, Inside and Depth
6-1/4" Measuring Capacity

Reading Lower Scale — .001"
Reading Upper Scale — .001"

Lower and Upper Vernier Plates are adjustable (up to .020") for easy recalibration and adjustment

New flush type Vernier eliminates reading parallax
Double length vernier for more accurate and faster readings
Fine Cam-lock adjustment for easy setting at close limits
Overall length 8-1/8"

$19.75

Cat. No. 193 furnished in clear unbreakable polyethylene case

For Complete Information request our 96 Page Catalog — Contact any of our 4 "Coast to Coast" Locations or your nearest Local Distributor.

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PRECISION MEASURING TOOLS AND INSTRUMENTS

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ST. JAMES: St. James, Minnesota
LOS ANGELES: 3337 West Olympic Blvd., Los Angeles 19, Cal.
CHICAGO: 5045 W. Harrison, Chicago 44, Ill.
When writing to any of the above locations, refer to DEPT H-6

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POR-ROK
(POUR ROCK) ®

ANCHORS BOLTS PERMANENTLY IN CONCRETE

IN 30 MINUTES!

POR-ROK
1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

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HOW CHEM-BOARD* BINBOX IDEA SAVES INVENTORY TIME and MONEY

*Chem-Board is the product of Convoy's process for chemically impregnating corrugated board, making it flint-hard and rock-strong.

WEIGHING IS FASTER THAN COUNTING

Instead of scooping out contents of a bin to count or weigh items at inventory time, the entire box is easily pulled out and weighed. Each stored part has a known count per pound. With the tare of the Convoy Bin Box established, the result is a tremendous saving in inventory time and effort.

Convoy Boxes may be your answer.

GET IN TOUCH WITH

CONVOY, INC.
CANTON 6, OHIO
P. O. Station B, Box 216-N

STANDARD AND CUSTOM-MADE NESTING, STACKING, and VERTICAL-SIDED CHEM-BOARD TOTE BOXES

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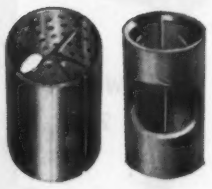
PRECISION THRUST WASHERS

FORMED BUSHINGS



...economy and precision in almost endless variety!

Precision Thrust Washers: solid bronze, or bronze-on-steel, one or both faces. Flat, spherical or special shapes. Keyways, tabs, coined oil grooves, any design.

Formed Bushings: solid bronze, steel or aluminum; or bi-metal, steel and bronze, babbitt, copper or aluminum. Oil holes, slots, grooves, whatever your design calls for. Straight, lock or special seams.

For design guide catalogs on both, or for engineering assistance, write Federal-Mogul Division, Federal-Mogul-Bower Bearings, Inc., 11079 Shoemaker, Detroit 13, Mich.

FEDERAL-MOGUL sleeve bearings · bushings · spacers · thrust washers DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.

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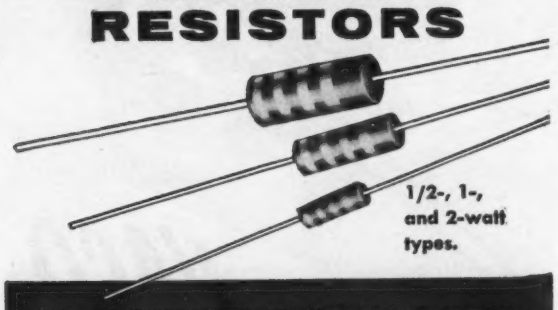
STACKPOLE Coldite 70+®

FIXED COMPOSITION
RESISTORS



1/2-, 1-, and 2-watt types.

★ Designed throughout for MIL-R-11 and other critical specifications. Unsurpassed stability.
★ Brighter phenolic bodies. . . . baked-on colors.
★ Exclusive, solder-coated leads for fastest soldering—by dip or iron.
★ Stocked by many leading parts distributors.

ELECTRONIC COMPONENTS DIVISION
STACKPOLE CARBON CO., St. Marys, Pa.

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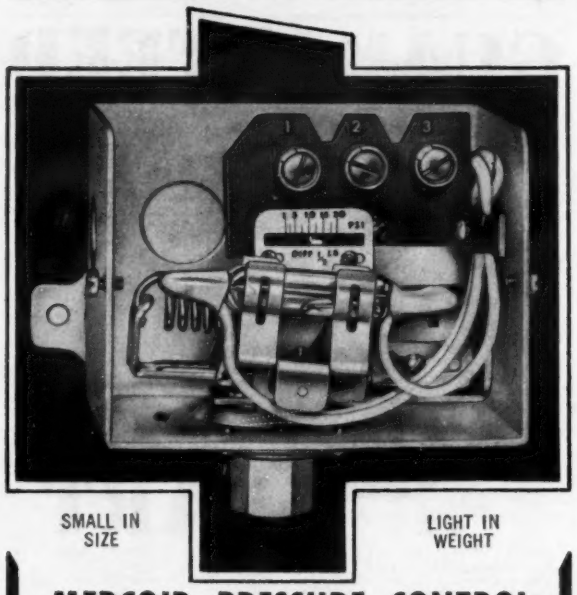

SMALL IN SIZE
LIGHT IN WEIGHT

MERCOID PRESSURE CONTROL

A new SP-DT pressure control for use with mediums not injurious to steel or silver solder. Has outside adjustments, calibrated dial. Provides any of the following operations—SP cut-in high, SP cut-in low or SP-DT operation. Operating ranges 1-20 or 1-30 PSIG.

Write for Bulletin 02

THE MERCOID CORPORATION
4209 Belmont Ave., Chicago 41, Ill.

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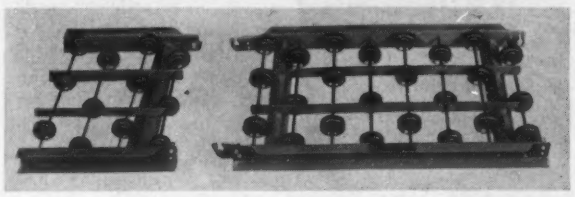
GRAVITY WHEEL CONVEYOR in straight and curved sections

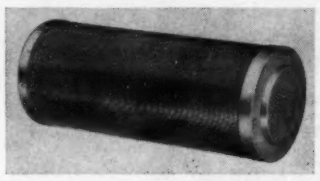
Suited for general use and set up easily on tripod stands or elsewhere, standard duty gravity wheel conveyors are available in 5 and 10-ft lengths, 45 and 90-



degree sections, and with various switches. They have 2½-in. formed steel or aluminum side members, universal couplings, 12 to 24-in. widths, and choice of 6 to 36 wheel settings per foot. Aluminum frames are bolted, and steel is electric welded. • **Sage Equipment Co.**, 30 Essex St., Buffalo 13, N. Y.

▲ For more details circle NED-253 F on enclosed inquiry slip ▲

AIR PURIFICATION CANISTER activated carbon type removes H_2S



The most troublesome contaminated air problems are met by this Dorex Type H No. 42 canister purifier which uses a specially impregnated activated carbon. It successfully removes hydrogen sulphide (H_2S) and affords retentivity of 30 per cent for this gas. Canister is advantageously used in paper mills, metalworking plants which use cutting oil, industrial laboratories, rayon plants, petroleum refineries, and tanneries. It has a heavy ¾-in. carbon bed thickness. • **Connor Engineering Corp.**, Shelter Rock Road, Danbury, Conn.

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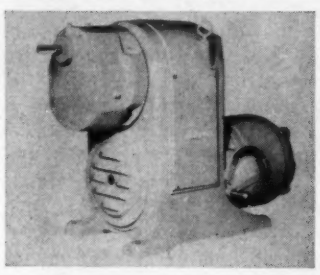
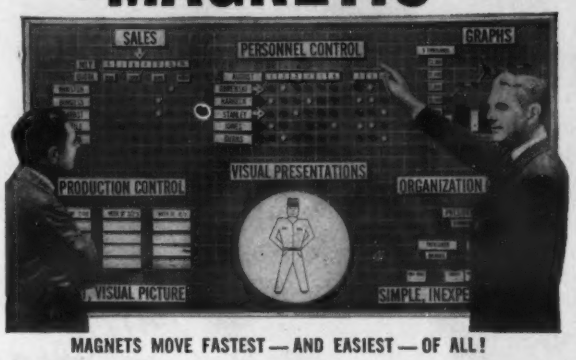
VARIABLE SPEED DRIVE for sustained 2500 to 25,000-rpm use



Up to 5 hp dripproof, totally enclosed, or explosionproof motors are available on the Type VEU - GHY Varidrive for sustained 2500 to 25,000-rpm operation. It combines a standard high speed motor and variable speed transmission with a gear increaser in a compact unit that is less than 2 ft high. Honed, super finished gears in the Syncrogear increaser are lubricated by the Orifeed metered system. Drive applications include seal and generator testing, high speed hydraulic pumps, turbine and jet engine testing, polishing, scribing, static balancing, and ultrahigh speed agitation. • **U. S. Electrical Motors Inc.**, Box 2058, Terminal Annex, Los Angeles 54, Calif.

▲ For more details circle NED-255 F on enclosed inquiry slip ▲

VISUAL **MAGNETIC** CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM $38 INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE6 FREE ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
105 Willow Ave., Staten Island 5, New York

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Look at it this way:

NEW **NEOTHANE**

means up to 4 times the tire-life in tire-killing jobs

This "worm's-eye" view of a typical lift-truck—looking up through heavy plate glass—demonstrates just some of the capabilities of the new industrial tires made of NEOTHANE—Goodyear polyurethane development.

Just imagine being able to use tires that—

. . . roll over metal chips, sharp splinters, gravel, even broken glass, with a minimum of cutting or gouging.

. . . wade through water, oil, grease, solvents or acids without swelling or turning spongy.

. . . as tough as they are, have enough "give" to take the shock of rough going—and won't mark fine-finish floors.

. . . outlast and outperform ordinary tires by as much as four times—even when carrying 2 to 4 times the load other tires can handle.

And that's only the beginning. For all the details on these Goodyear tires that stand up under tough, heavily overloaded conditions that cause other tires to fail prematurely, see your Goodyear Dealer or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

NEOTHANE INDUSTRIAL TIRES BY

GOODYEAR

More tons are hauled on Goodyear Truck Tires than on any other kind

Neothane—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

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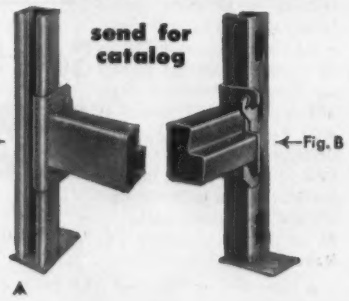
no storage rack but American offers all these features

American
Slide-n-Lock adjustable
STORAGE RACKS

1. **American Stringers are one-piece**—made of durable, continuous welded steel tubing, made from high carbon steel.
2. **American Stringers have step construction** for fast, simple conversion to decking — step is 1⅝" deep — thickness of finished 2" lumber.
3. **American Posts are rugged** — made from extra heavy gage steel — roll formed by special tooling.
4. **American has positive double-wedging lock** — safe-t-pin gives positive security against unhooking stringers.
5. **American has smooth, aisle-side construction** — no protrusions of any kind to tear clothes or create a safety hazard.
6. **American has higher safety factors** — 2.25 to 1 — for greater protection to truck operators and merchandise.
7. **American Racks are easy to erect**—no costly bolting—all parts hook into place.
8. **American Racks are easy to adjust** —all stringers can be moved independently of any other part.
9. **American Upright Frames are cross braced** against sway — turnbuckles provide ready take-up for uneven floors.
10. Fig. A—smooth line construction of aisle side of post and stringer eliminates hazardous protrusions. Stringers raise and lower like a window. Fig. B—note rigid connection when stringer is "locked" to post.

American Slide-n-Lock storage rack installation, Henry Holt & Company, Clifton, New Jersey

send for catalog



AMERICAN METAL PRODUCTS CO.
STORAGE RACK DIVISION
5977 Linsdale Ave. amp® Detroit 4, Michigan

Manufactured in Canada by Sunshine-Waterloo Co., Ltd. Waterloo Ontario

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Your Problems in moving AIR DUST FUMES AND MATERIALS easily solved with FLEXAUST® HOSE

Both Flexaust hose and Portovent retractable duct are made of neoprene coated fabrics and wire reinforced, and have service-proven their dependability and durability in thousands of installations since 1938. Easy to cut, couple, connect, reuse, relocate, they can be installed in minutes to give years of service. Sizes from 1¼ to 36" i.d.

WRITE TODAY FOR DETAILS
"Distributors in all principal cities"
THE FLEXAUST COMPANY
Dept. NED-6 100 Park Avenue, New York 17, N. Y.

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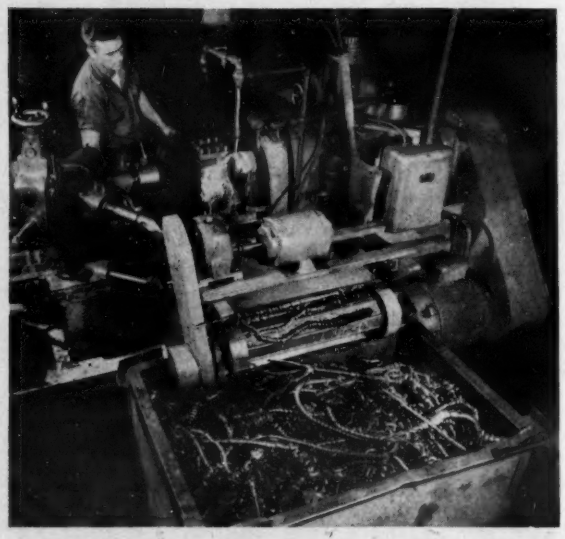
NO DOWN-TIME FOR SCRAP REMOVAL!



with MAY-FRAN CHIP-TOTE

PROVIDES CONTINUOUS REMOVAL OF CHIPS TURNINGS AND BORINGS FROM MOST MACHINE TOOLS!

Here is another installation of the famous CHIP-TOTE in action. This machine tool attachment can pay for itself in 6 months or less . . . it will increase production . . . reduce costs. Scrap is channeled clear of the machine for discharge into tote boxes or onto carry-off conveyors. Available in complete range of sizes.

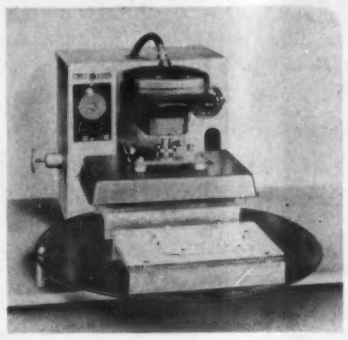
MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Rd.
Cleveland 12, Ohio

Write today for CATALOG MF-640

8716-MF

▲ For more details circle NED-259 F on enclosed inquiry slip ▲

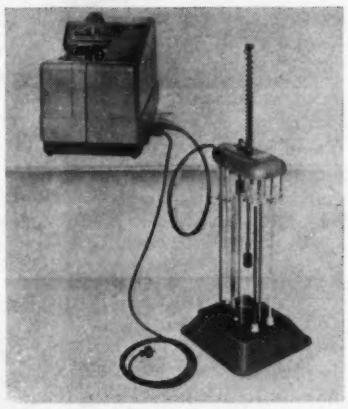
BLISTER SEALING MACHINE for packaging of short run items



Most small products can be packaged in one operation by a single operator using the Model 04CP Clear-Pak plastic blister sealing machine. The manually operated unit, useful for short run items and sample making, can make a complete package every 6 sec. It seals one package while the next is being loaded on its rotating table. Simple dies made in the user's plant make for rapid and inexpensive changeover in package sizes. Machine seals up to 6 x 8-in. blisters with heights to 3 in. Simple modifications enable it to seal products up to 10 in. high. The 122-lb machine requires an 18 x 25-in. bench area. • **Erdco Engineering Corp.**, Addison, Ill.

▲ For more details circle NED-260 F on enclosed inquiry slip ▲

LIQUID ANALYZER detects minute trace impurities and prints time sample is taken



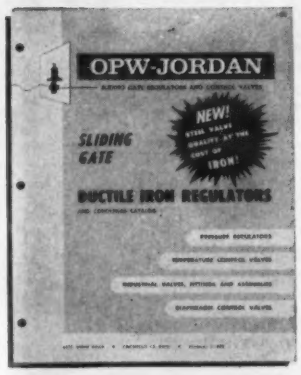
Millipore filter testing method employed by the Graver Automatic Tape Analyzer quantitatively removes particulate material from a liquid or gaseous sample. It is retained on the surface of an ultrafine membrane for easy identification, sizing, counting, or testing. Instrument can detect two particles of solid impurity in a billion parts of liquid. Capable of detecting trace insoluble solid impurities in all types of liquids, it can be modified to sample plant atmosphere and gases, as well as test for radioactivity.

The Millipore test is automated by the analyzer by filtering samples in sequence and printing the time each sample is taken. A strip chart recording attachment is available. In addition to basic data, the stain on the tape can be used for further testing and analysis. Instrument has a 0.1 to 0.5-gpm flow rate, operating pressure of 50 to 100 psi, and operates on 110-115 v, 60 cycles ac. • **Graver Water Conditioning Co.**, 216 W. 14th St., New York 11, N. Y.

▲ For more details circle NED-261 F on enclosed inquiry slip ▲

NEW

REGULATORS AND CONTROL VALVES NOW AVAILABLE IN DUCTILE IRON



This easy to use manual describes how you can get steel strength in regulators and control valves at the cost of iron . . . and, at considerable savings. It fully explains how ductile iron is produced, shows features, specifications, typical ranges of mechanical properties, and comparison tables on physical properties of cast steel, ductile iron, red brass and cast iron. This manual is also a condensed catalog describing the complete line of OPW-JORDAN products that are available to you in ductile iron. It's available for the asking . . . so, send for your Ductile Iron Manual today!

Send for your Copy!

OPW-JORDAN
6013 WIEHE ROAD
CINCINNATI 13, OHIO

▲ For more details circle NED-262 F on enclosed inquiry slip ▲

Ah... that's my driver!

It's a VACO®

Service men all across the country agree . . . there's no other screw driver or nut driver with the built-in comfort of the VACO "comfordome" handle. Makes service work easy! Enjoy the luxury grip of a VACO . . . the driver that gives plenty of power, yet is always kind to hands. Next time choose a VACO and *feel the difference!*

Manufactured and Unconditionally Guaranteed by
VACO PRODUCTS CO., 317 E. Ontario St., Chicago 11, Ill.
In Canada: VACO-LYNN PRODUCTS CO., LTD., Montreal 1, Que.

▲ For more details circle NED-263 F on enclosed inquiry slip ▲

GUARANTEED

to give drip-tight leak-proof seal

greatest name in unions

DART

Available through your local distributor.

For over 55 years the firm guarantee back of each and every DART UNION sold has been — *"if one should leak through we will give you two"!* The record reveals that less than 1 in every 100,000 has proven to be faulty. The extra wide bronze to bronze seats, precision ground to a true ball joint, mounted in heavy malleable iron pipe ends and protected by an extra heavy union nut, make a drip-tight, leak-proof connection WITHOUT EXCESSIVE WRENCHING time and time again.

Guarantee positive tight connections and extra long service on your pipe lines by using the DART GUARANTEED UNION.

Yours on request: Descriptive brochure on Dart Unions and Union Fittings.

DART UNIONS *Products of* DART UNION COMPANY PROVIDENCE 5, R. I.

GENERAL SALES AGENT
THE Fairbanks COMPANY
393 LAFAYETTE STREET, NEW YORK 3, NEW YORK
BRANCHES: NEW YORK 3
PITTSBURGH 22 • BOSTON 10 • ROME, GEORGIA

▲ For more details circle NED-264 F on enclosed inquiry slip ▲

LEAK-PROOF DYNAPUMP AVOIDS 90% OF CONVENTIONAL PUMP PROBLEMS

Model 670E Fractional horsepower canned pump

This totally-enclosed pump-motor unit has no shaft seal or stuffing box . . . prevents fluid loss or contamination. No lubrication required . . . no couplings or alignment problems. Low cost, compact, lightweight . . . made of corrosion-resistant stainless steel . . . easily mounted in any position.

Write for catalog, Chempump Division, Fostoria Corporation, Huntingdon Valley, Pa.

DYNAPUMP

▲ For more details circle NED-265 F on enclosed inquiry slip ▲

NEW:
Finishing Machine
doubles as tool sharpener

This new Delta 4" Belt and 12" Disc Finishing Machine will not only do 95% of all your production or custom finishing jobs, it can *save* you the cost of an extra tool. With *exclusive* new Delta attachment you can sharpen plane blades, wood or lathe chisels, many carving tools—quickly and precisely. And you get these advantages:

- Uniform angle on cutting edge
- No tool "burning"—long belt dissipates heat
- No wheels to "dress"
- Quenching eliminated

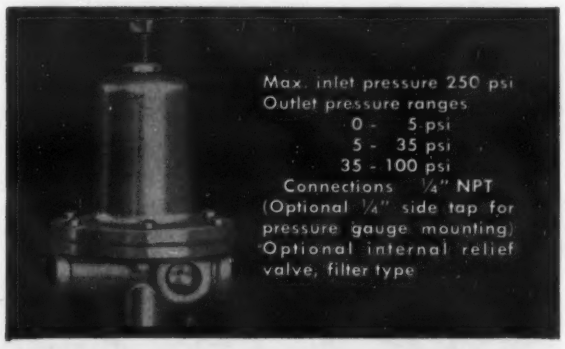
You can do more work faster because you have two machines, mounted on one stand, powered by a single motor. Learn more about the operating economies and quality extras that Delta's 31 years' experience have built into this machine.

See your Delta Industrial Distributor

He's listed under "TOOLS" or "MACHINERY" in the Yellow Pages—he'll give you complete details. For FREE literature write: Rockwell Manufacturing Company, Delta Power Tool Division, 626F N. Lexington Ave., Pittsburgh 8, Pa. In Canada: Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

DELTA INDUSTRIAL TOOLS
another fine product by
ROCKWELL

▲ For more details circle NED-266 F on enclosed inquiry slip ▲



NEW Instrument Regulator

The Rockwell "080" instrument regulator is the latest, most versatile for all "in plant" locations where a constant air or gas pressure must be supplied to *recording* and *control* devices. It is also highly useful for controlling paint spray units, air chucks, gas drives, air cylinders and LPG systems. Write for bulletin 1111, Rockwell Manufacturing Company, Dept. 45-F, Pittsburgh 8, Pa.
In Canada, Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

"080" INSTRUMENT REGULATOR
another fine product by
ROCKWELL

▲ For more details circle NED-267 F on enclosed inquiry slip ▲

LIGHT BAND VERNIER
provides accurate linear value

Accurate light wave measurement is possible with this Light Band Vernier, used with a monochromatic lamp and optical flat. Device establishes an accurate linear value which is converted by simple arithmetic to a precise equivalent in millionths of an inch. It is made of anodized aluminum and mounted on three rubber-tipped legs. Two arms hold a fine nylon cross-hair sight. Current models can be used with up to 6-in. diameter optical flats. Unit will supplement quality control operations in addition to inspecting and measuring for flatness. • Acme Scientific Co., 1450 W. Randolph St., Chicago 7, Ill.

▲ For more details circle NED-268 F on enclosed inquiry slip ▲

PERMANENT PIPE COUPLING
improved, heavier-walled unit

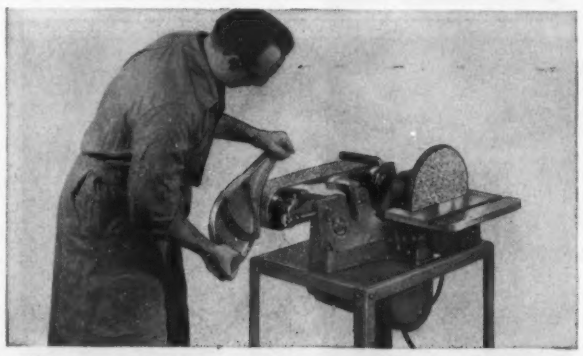
A heavier wall and more inside space are improvements made in the Normac coupling for plain end piping. Pipe ends can deflect from alignment more than before, whereas the heavier wall protects against corrosion and increased distribution pressures. Tapered rubber gaskets are compressed against the pipe by take-up nuts threaded on each end. Plain, bead-tipped, and insulating gaskets can be chosen. • Norton-McMurray Mfg. Co., 919 N. Michigan Ave., Chicago 11, Ill.

▲ For more details circle NED-269 F on enclosed inquiry slip ▲

6-FT STEM THERMOMETER
offered in 0 to 1000° F ranges

Temperature of deep vats, kettles, tanks, stocks, ovens, ducts, and other equipment can be measured with the 6-ft stem stainless steel thermometer. It withstands liquid or gas pressures to 3476 psi. Ranges from 0 to 200° F up to 200 to 1000° F have accuracies within 1 per cent of full scale reading. Centrigrade calibrations are available. A 5-in. dial is standard, although 1 5/32, 1 11/16, 2 5/16, and 3-in. diameters are available. • W. C. Dillon & Co., 14620 Keswick St., Van Nuys, Calif.

▲ For more details circle NED-270 F on enclosed inquiry slip ▲



Does 90% of your finishing

This all-new Walker-Turner Belt and Disc Finishing Machine does grinding, surfacing, polishing—dozens of finishing jobs on a variety of materials—in custom or production work. It saves you time, space and money because you get two machines, mounted on one stand, operated by one motor. Versatile 4" x 52½" belt and precision 12" disc finisher offer many famous W-T "Light Heavyweight" quality features. Ask your Walker-Turner Distributor for details (he's listed under "TOOLS" or "MACHINE TOOLS" in the Yellow Pages.) Write for FREE literature: Rockwell Manufacturing Company, Walker-Turner Division, Dept. WF45, 400 N. Lexington Ave., Pittsburgh 8, Pa.

WALKER-TURNER
"LIGHT-HEAVYWEIGHT" MACHINE TOOLS
another fine product by
ROCKWELL

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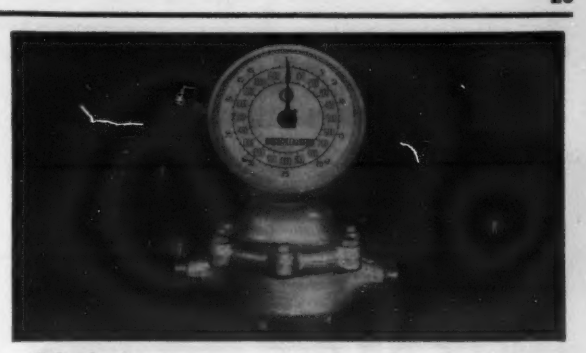

Introducing a
NEW, low cost industrial meter

Here's good news for industry. Mass production economies using multi-purpose materials have made possible this sturdy meter design which will handle up to 95% of all in-plant metering needs. It measures accurately over 300 liquids in all with the same simple construction. With it you'll save substantially on first cost and save for years by gaining accurate metered records of piped liquids. Available in sizes ½", ¾", 1", 1½" and 2" with your choice of non-reset, reset and vertical dial registers or electric alarm systems and impulse contactors. Write for bulletin PI-666. Rockwell Manufacturing Company, Pittsburgh 8, Pa. In Canada, Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

INDUSTRIAL METERS
another fine product by
ROCKWELL

▲ For more details circle NED-272 F on enclosed inquiry slip ▲

Want help in cutting valve costs?

Get These Rockwell-Nordstrom Lubricated Plug Valve Booklets

- **Semi-Steel Valves** and accessories for normal temperature, normal pressure services. Bulletin V-203.
- **Corrosion Resisting Valves** in brass, Monel, stainless steel, bronze and other corrosion resistant patterns. Bulletin V-217.
- **Coated Valves** with new, special corrosion resisting coatings factory-applied to standard valves. Bulletin V-614.
- **Hypresphere** lubricated spherical plug valves for 16" to 30" gas and liquid lines. Bulletin V-607.
- **Power Operators** for pneumatic, hydraulic and electric control and remote operation. Bulletin V-214.
- **Condensed Catalog** on Rockwell-Nordstrom lubricated plug valves plus data on Rockwell liquid and gas meters and pressure regulators.
- **Steel, 1000-lb. Valves** with round opening for many services requiring full opening valves in smaller sizes. Bulletin V-611.
- **Lubricating and Servicing Instructions** for Rockwell-Nordstrom lubricated plug valves. Bulletin V-218.
- **Lubricant Recommendations** for genuine Rockwell valve lubricants specially prepared for wide variety of services. Bulletin V-220.
- **Maintenance & Instruction Manual** gives full data on valve fundamentals, assembly and specific field maintenance instuctions. V-616.
- **Water Transmission Valves** for public commercial-industrial installations. V-612.

Whatever your valve needs, you can select from the Rockwell-Nordstrom complete line of lubricated plug valves, lubricants and plug valve accessories. Write today for details: Rockwell Manufacturing Company, Pittsburgh 8, Pa. Canadian Valve Licensee: Peacock Brothers Limited.

ROCKWELL-Nordstrom VALVES
another fine product by
ROCKWELL

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FORM! TWIST! SWAGE! WELD!

NATIONAL-STANDARD *Nickelply* wire can improve your product...*

National-Standard Nickelply wire is steel wire electro-plated with nickel in coating weights up to 10% for diameters up to .340". The nickel jacket, with either a bright or matte finish, is precisely concentric and inseparably bonded to the wire . . . can be formed, twisted, swaged or welded without fracturing the nickel jacket or exposing the base metal . . . ideal for corrosion resistance, for decorative uses and for certain high ambient temperature services.

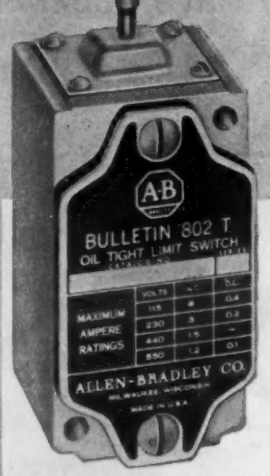
* T.M.

NATIONAL-STANDARD COMPANY
Niles, Michigan

▲ For more details circle NED-274 F on enclosed inquiry slip ▲

Allen-Bradley has the solution to your Limit Switch problem . . .

There's always something new in the A-B line



Cat's whisker limit switch for very low operating force applications (5 oz-in.).

Here are just a few of the more recent additions to Allen-Bradley's broad line of Bulletin 802T oiltight limit switches. Like all A-B oiltight limit switches, they are sealed against oil, dirt, and metal chips—operators cannot become sluggish, and contacts cannot become fouled. The snap action switch mechanism maintains high contact pressure up to the point of switchover. Vibration cannot cause faulty operation. Good for millions of trouble free operations.

There's an A-B limit switch to fit your exact requirements. Send for full details.

Duplex switch with two roller lever actuators

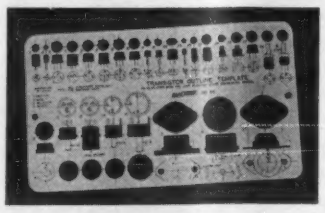
Micrometer adjustment roller lever limit switch

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
Quality MOTOR CONTROL

▲ For more details circle NED-275 F on enclosed inquiry slip ▲

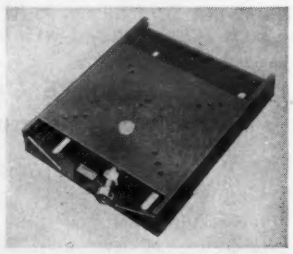
TRANSISTOR TEMPLATE
has outline cutouts for 27 sizes



Both top view and side elevation outlines of 27 sizes of transistors are found on the No. 319 transistor outline template. Each cutout has registered designating numbers, sizes, and specifications. Based on standards of manufacturers in the Joint Electron Device Engineering Council, the template is designed to speed layout of wiring diagrams and printed circuits. It is made of 0.030-in. matte finish plastic, measures 5½ x 9½ in., and sells for $3. • **Rapidesign, Inc.**, Box 429, Burbank, Calif.

▲ For more details circle NED-276 F on enclosed inquiry slip ▲

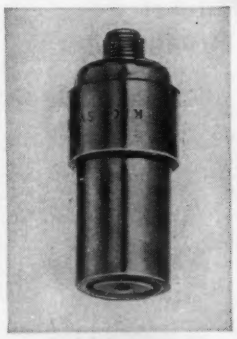
PANCAKE MOTOR BASE
height is 1 9/16 or 1 21/31 in.



Low, pancake-type Quick-Slide motor base for use in variable-speed sheave installations where space is limited provides rapid release of adjusting screw. Base is moved quickly and easily to shorten center-to-center distance and free V-belts from grooves for sheave adjustment. Base height is only 1 9/16 or 1 21/32 in., depending on NEMA motor frame number. Amount of movement is either 4½ or 6 in., also depending upon frame number. Nine-inch movement can be furnished on order. • **T. B. Wood's Sons Co.**, Fifth Avenue, Chambersburg, Pa.

▲ For more details circle NED-277 F on enclosed inquiry slip ▲

PRESSURE PICKUP
has 0 to 5000-psi range



Sensitive No. 701 quartz crystal pickup has a fast response in measuring pressure variations of 0.1 psi over a rated range of 5000 psi. Special models cover a 10,000-psi range. The ⅜-in. diameter by 1-in. long unit has a natural frequency of 100,000 cps, a 5-microsecond rise time, and a sensitivity of 200 mv per 1 psi with a 1-ft cable. It is unaffected by temperature, time, or mechanical stress. Range and versatility are extended by piston and cylinder type, high pressure, and force adapters. Although it withstands a −400 to 500° F range without loss of accuracy, simple water-cooled adapters are available for cooling. • **Kistler Instrument Corp.**, 15 Webster St., North Tonawanda, N. Y.

▲ For more details circle NED-278 F on enclosed inquiry slip ▲

COPPUS "Blue Ribbon" Ventilator-Exhausters are portable and easily adaptable . . . for exhausting welding fumes or foul air from enclosed vessels. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
406 Park Avenue, Worcester 10, Mass.

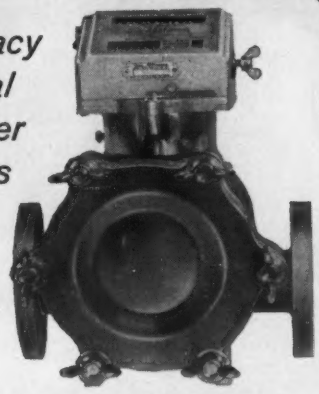
- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

Name .....
Company .....
Address .....
City .....

COPPUS BLOWERS

▲ For more details circle NED-279 F on enclosed inquiry slip ▲

high accuracy on chemical and fertilizer applications



Badger's 2" stainless steel meter with magnetic drive

Accuracy of ±.5% (20-100 GPM) for measuring, blending, batching of liquid corrosive chemicals in manufacturing and bulk plant operation.

Rugged Type 316 stainless steel construction, simple design, easily removable cover for in-place cleaning. Magnetic drive eliminates packing gland.

Write for descriptive literature

Badger Meter Mfg. Co.
Industrial Products Division
4545 W. Brown Deer Rd. • Milwaukee 23, Wis.

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POTDEVIN Label Paster

Time savings of 30% and more with unskilled operators makes your POTDEVIN Label Paster quickly pay for itself. No adjustments required for varied shaped labels. Accurate control of adhesive minimizes waste and assures clean, neat labeling.

Available in 6", 8½", 12" and 18" widths.

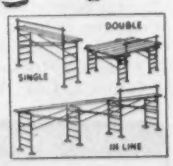
POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.
Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

▲ For more details circle NED-281 F on enclosed inquiry slip ▲

SAFE . . . at any height!

BIL-JAX *All Purpose* **SCAFFOLDS**
ROLLING OR STATIONARY

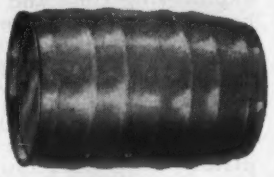
Makes any kind of "off-the-floor" repairing, painting and upkeep safer and easier. Rental and sales outlets in principal cities. Write for literature.



BIL-JAX · INC. · ARCHBOLD OHIO

▲ For more details circle NED-282 F on enclosed inquiry slip ▲

Increase Your Production Capacity the Easy, Low-Cost Way! Use the...



Alcoa JOBBING DIVISION

In a production jam because of temporarily inadequate facilities? Not tooled up for components you'd like to be making? Need specialized equipment or personnel?

Alcoa's Jobbing Division can solve any or all of these problems . . . save you money and time . . . give you the service of all the metal-working machines and fabricating facilities you need *without* capital investment . . . offer engineering and design help . . . and can produce the product for you!

For information, see your nearest Alcoa sales office. (For a free, 16-page booklet describing Alcoa's Jobbing Division facilities, check the coupon at the bottom of this page.)

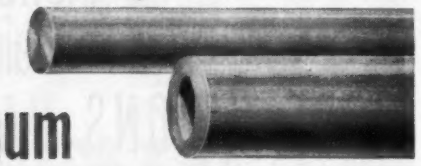
CALL YOUR NEAREST ALCOA SALES OFFICE!

ALCOA ALUMINUM

JOBBING DIVISION

▲ For more details circle NED-283 F on enclosed inquiry slip ▲

For Bearings and Bushings That Cost Less, Give More and Last Longer . . .



Alcoa Aluminum BEARING STOCK!

Need bearing stock for bushings and bearings? Your Bunting Distributor stocks Alcoa® Aluminum Bearing Stock in a warehouse not far from *you!*

Aluminum bearings withstand loads up to 10,000 psi; run as much as 20 degrees cooler than other materials; reduce starting torque. Aluminum is easily machined. It conforms readily to misaligned shafts. It's longer lasting in tough service.

Call your Bunting Distributor now, and start to save money. Like more information? Check the coupon below!

CALL YOUR BUNTING DISTRIBUTOR TODAY!

ALCOA ALUMINUM

BEARING STOCK

▲ For more details circle NED-284 F on enclosed inquiry slip ▲

Cut Your Fastener Inventory! Get Any Type or Size; High-Strength, Heat-Treated Alloys; Low Prices; Fast Delivery . . . of

Alcoa Aluminum FASTENERS

No need to maintain a big inventory on fasteners. Look in the Yellow Pages for your local Alcoa distributor. He has the largest line of aluminum fasteners available today—Alcoa® Aluminum Bolts, Nuts, Rivets, Machine Screws, Wood Screws, Sheet Metal Screws, Washers, anything you need in standard types and sizes—and offers complete stocks, fast deliveries, lowest prices. Alcoa Aluminum Fasteners are made from corrosion-resistant, fully heat-treated, high-strength alloys with full threads, no burrs. And you'll get *full count* on every order . . . no misfits, "seconds," rejects. No need to stock too many, no need to run short. Call your local Alcoa distributor! (For more data and samples, check the coupon at the bottom of this page.)

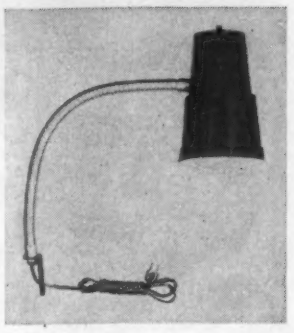
CALL YOUR NEAREST ALCOA DISTRIBUTOR!

ALCOA ALUMINUM

FASTENERS

▲ For more details circle NED-285 F on enclosed inquiry slip ▲

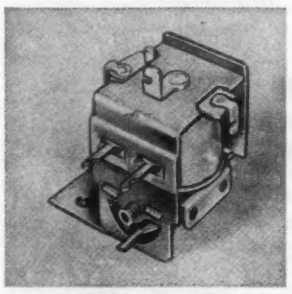
MACHINE OR BENCH LIGHT with 12, 15, or 18-in. flexible arm



Attractive R line Localite for use on small machine tools, work benches, and other working areas is available with 12, 15, or 18-in. flexible arm. Modern-design circular reflector is ventilated for cool operation. Light accommodates standard A-19 60-w incandescent bulb. • **Fostoria Corp.**, Dept. 38, 1200 N. Main St., Fostoria, Ohio.

▲ For more details circle NED-286 F on enclosed inquiry slip ▲

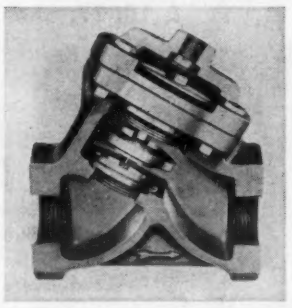
LATCHING RELAY rated up to 5 amp at 24 v ac



Series 4200 single-pole double-throw latching relay for remote control, computer, and programming operations employs a single coil and an unusual moving contact and plunger mechanism. It latches into one or the other of its throw positions in sequence, each time coil is energized. Contacts are rated up to 5 amp at 24 v ac. The 10,000-ohm impedance coil with operating voltage to 117 v ac has minimum operating speed of 30 milliseconds. Unit measures $1\frac{1}{8}$ x $1\frac{1}{2}$ x $1\frac{3}{4}$ in. and is offered with standard vertical or optional horizontal mounting. • **Lionel Corp.**, 28 Sager Place, Irvington 11, N. J.

▲ For more details circle NED-287 F on enclosed inquiry slip ▲

DIAPHRAGM VALVES sizes sizes from ¾ to 2½ in.



Diaphragm actuator of this line of power-operated valves functions in both directions, actuated by line pressure. Screw type cast iron valves have a nylon reinforced neoprene diaphragm attached to a solid stem shaft that carries the valve disc on its lower end. Line pressure applied above the diaphragm through a ¼-in. line, and manual or power control valve operates the valve. Removal of pressure causes line pressure to open the disc and fluid flow to resume. Three series in ¾ to 2½-in. sizes are available. Sizes under $1\frac{1}{2}$ in. are hot dip galvanized. • **AquaMatic, Inc.**, 2412 Grant Ave., Rockford, Ill.

▲ For more details circle NED-288 F on enclosed inquiry slip ▲

Stop Accidents! Protect Your Employees, Keep Production Moving . . . with

Alcoa Aluminum ABRASIVE TREAD PLATE

Get lasting protection against slipping with Alcoa® Aluminum Abrasive Tread Plate . . . made with tough particles of fused aluminum oxide. Much lighter in weight, it's *much easier to install.* Corrosion resistant, it's *maintenance-free.* Long usage only renews the surface, uncovering embedded abrasive particles. Wherever the floor becomes wet, oily, greasy—wherever slippery materials accumulate—install Alcoa Aluminum Abrasive Tread Plate! (For sample and free booklet, check the coupon at bottom of this page.)

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ALCOA ALUMINUM

ABRASIVE TREAD PLATE

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Lower final costs, improve finished quality by using Alcoa materials! Get answers, too—Alcoa offers you the benefit of extensive research in alloys, techniques, joining methods.

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- IG (Inert Gas) Welding Electrode
- Coiled Welding and Brazing Rod
- Straight-Length Welding and Brazing Rod
- Welding, Brazing and Soldering Flux
- Solder

For technical assistance, call your nearest Alcoa sales office. For quick delivery of materials, call your nearest distributor. (For welding films and recently released welding design information, check coupon below.)

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ALCOA ALUMINUM

WELDING MATERIALS

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1840-T Alcoa Building, Pittsburgh 19, Pa.

Please send me the samples or information I have checked: Sample ☐ Free Booklet ☐ on Alcoa Aluminum Abrasive Tread Plate. Samples ☐ More Data ☐ on Alcoa Aluminum Industrial Fasteners. Free 16-Page Booklet ☐ on Alcoa Aluminum Fabricating Facilities. Information on Welding Films ☐ Latest Welding Design Information ☐ More Information on Alcoa Aluminum Alloy Bearing Stock ☐

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A Black & Decker subsidiary

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Bullard TIP-LOCK Safety hoist hooks lock loads in and protect men and materials. So rugged and simple, they will operate for years with practically no maintenance ...yet the TIP-LOCK hook is made with such precision that a touch of the finger opens the gate. In sizes 6 (5,500 lbs.) through 18 (100,000 lbs.) to fit all makes and models of hoists, cranes and derricks.

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INDUSTRIAL SAFETY EQUIPMENT

Write for Tip-Lock Safety Hoist Hook Data Sheet

E. D. BULLARD CO.
SAUSALITO, CALIFORNIA

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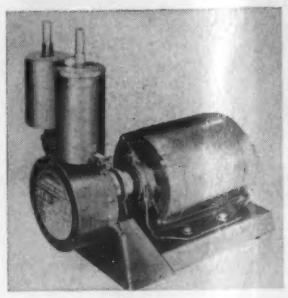
VACUUM PUMP capacity is 35 liters per minute



Transferring gases, sampling, dehydration, and testing are among applications for the improved Langdon vacuum pump. It operates at 1725 rpm, has a capacity of 35 liters per minute (free air), and produces an ultimate vacuum of 50 microns. Oil is changed quickly while in operation, using only 50 cc of ordinary SAE motor oil. Pump vanes are activated by a combination of centrifugal and hydraulic forces. Volatile or corrosive vapors released by the oil can be removed by applying a secondary vacuum to the outlet trap. Operation on free air during idle periods purges the oil system. • **Hevi-Duty Electric Co.**, Box 563, Milwaukee 1, Wis.

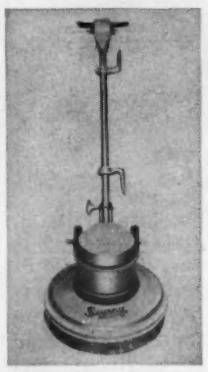
▲ For more details circle NED-293 F on enclosed inquiry slip ▲

STRUCTURAL CLAMP has 0 to 1-in. range and 2-ton capacity

Short leg on this 2-ton capacity structural clamp provides a secure "bite" on small junior size beams. The drop forged material handling device is relatively light in weight and has a 0 to 1-in. grip range. It is proof tested at 6 tons and has a 5 to 1 safety factor. • **Merrill Brothers**, Artic Street, Maspeth, N. Y.

▲ For more details circle NED-294 F on enclosed inquiry slip ▲

FLOOR SCRUBBER in 12, 15, 17, and 20-in. sizes



Reduced height of Series SS Super Service floor machine enables it to operate in space-limited areas. Machine is built in 12, 15, 17, and 20-in. sizes and features a wraparound rubber bumper on the motor cover as well as on the machine body. Compact motor and gear unit is quiet in operation and delivers smooth starting torque, even on difficult scrubbing jobs. The short, sturdy handle with white vinyl grips is adjustable through 90 degrees, and the 5-in. ball-bearing wheel carriage is self-retracting. • **National Super Service Co.**, Toledo Factories Bldg., Toledo 2, Ohio.

▲ For more details circle NED-295 F on enclosed inquiry slip ▲

Water treatment— a serious engineering problem

FREE BOOKLET

gives practical answers

Scale deposits and slimes can wreak havoc with air-conditioning and refrigeration systems and with boilers and heating systems. It is a condition all maintenance engineers know and fight. But not everyone can tell you how to *cure* water problems. And not all water treatment chemicals can combat the conditions successfully. "Virginia" can do both. Our chemicals are economical, easy to use—and sold by wholesalers everywhere. A letter, wire, or phone call can bring a "Virginia" man—skilled in every phase of water treatment—to you with the right answers.

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135 Jefferson St., West Norfolk, Va.

☐ Send me a copy of your free booklet, "Water Cooling Problems—How to Correct Them"
☐ Send a "Virginia" field man around to see me

Name _____ Title _____
Company _____
Address _____

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Special Machinery Builders: Why spend engineering time and money detailing clutches, bearings, drive sheaves, and controls when you can buy them in a package? Especially when that package gives you faster cycling, more automatic control, easier pushbutton jogging, and greater versatility! Yes, all the benefits of electric motion control—now practical in every way for one-of-a-kind applications. It's a pre-engineered, completely assembled clutch-pulley combination—Warner's new Electro-Sheave. Just slip it over any standard NEMA motor shaft, tighten the setscrew, mount the brush-holder, and belt the sheave to the machine. Any switch actuates the clutch. Simple wiring from the brush-holder to the control panel speeds assembly, and reduces costs. Five sizes (1 to 25 hp). Write for Bulletin P-52.

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new Koncentrik® Stainless PIPE UNIONS HAVE A Fully Confined TEFLON SEAL

Exclusive design is ideal for high pressure and high vacuum applications. Pressure ratings — 2,000#, 3,000#, 4,000# and 6,000#. Screwed or socket weld ends, for pipe sizes ⅛" to 2". Write for catalog today.

Fully Confined

THE SPECIAL SCREW PRODUCTS COMPANY
Bedford, Ohio

SSP

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Completely Redesigned!

★ Tear Tape Opener—
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★ New Bag Construction—
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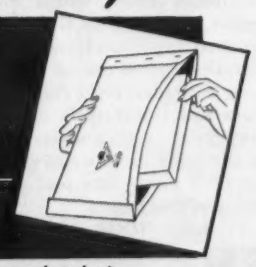

Write for your free sample today!

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360 FLORENCE AVENUE, HILLSIDE, N. J.

*Clupak, Inc.'s trademark for stretchable paper.

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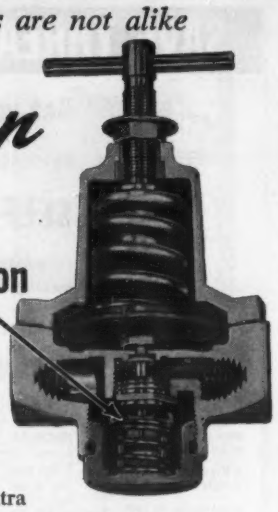
All pressure regulators are not alike



Norgren

Balanced Valve Construction

the Norgren extra, assuring more uniform air pressure regulation

The balanced valve gives the Norgren Regulator an extra efficiency in compensating for changes in line pressure and changes in flow demand. As a result, the Norgren Pressure Regulator maintains the uniform delivery pressure you need, under any and all operating conditions.

Write for descriptive literature

C. A. NORGREN CO. FOUNDED IN 1926

3405 SOUTH ELATI STREET • ENGLEWOOD, COLORADO

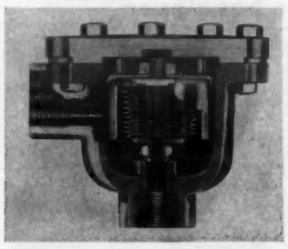
▲ For more details circle NED-300 F on enclosed inquiry slip ▲

PLASTIC-TIPPED HAMMER improved for added strength

Safe - T - Grip plastic-tipped hammers (*NED, June* '59) have been improved in strength and safety with addition of a metal thread insert in the soft tips. Hammer is guaranteed against stripping of threads in the tips or on the stud, or breakage of the burnished I-beam aluminum handle. Full floating assembly allows relocating, repositioning, and rotating of tips to equalize wear. The 1 and 2-lb hammers have head diameters of 1½ and 2 in., respectively. • R. W. Hughes Industries, Inc., 2713 Ludelle, Ft. Worth, Texas.

▲ For more details circle NED-303 F on enclosed inquiry slip ▲

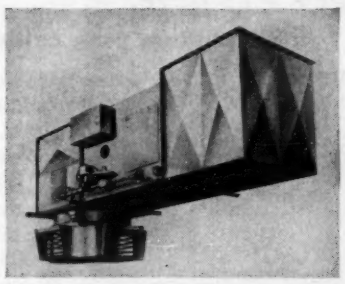
CONDENSATE TRAP handles 17,500 lb per hour



Cycling or continuous maximum bellows flexing from on to off is eliminated in this TM Series thermostatic steam trap which modulates with degree of flow. Design permits use of larger orifice, which is 0.460 in. on the ½-in. size and capable of handling 17,500 lb of condensate per hour at 125 psi. Unit positively dead-ends with no 10-sec weeping every closing cycle. It is reported to improve heat recovery of process equipment and removes all condensate and air to assure a dry line ahead of the trap. • C. E. Squires Co., 18502 Syracuse Ave., Cleveland 10, Ohio.

▲ For more details circle NED-304 F on enclosed inquiry slip ▲

FRESH AIR SUPPLY HEATERS gas-fired units in five sizes



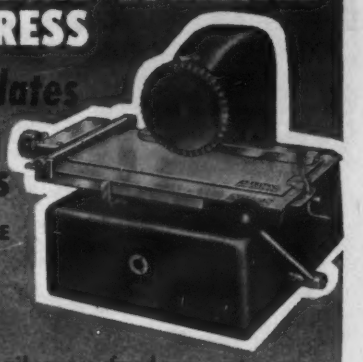
Warmed air lost through exhaust systems is replaced by GFAS gas-fired air supply heaters, allowing exhaust systems to operate at rated efficiency. High turndown ratio permits minimum temperature rise as low as 3.3° F. Units distribute fresh outside air in summer without heating. Five sizes from 15,000 to 50,000 cfm and 1.5 to 4.5 million Btu per hour are available for 220, 440, or 550 v three-phase ac. Modular design simplifies installation with roof or wall intakes. Burners for dual fuel operation are available and a choice of discharge arrangements, including revolving discharge, promotes even air distribution. • L. J. Wing Mfg. Co., Vreeland Mills Road, Linden, N. J.

▲ For more details circle NED-305 F on enclosed inquiry slip ▲

Automark®

HAND OPERATED DETAIL PRESS

for Nameplates and Small Parts



CHARACTER SIZE 1/16" to 1/4"

NEW

Top Quality detail press for low cost name plate and small part stamping. Features automatic spacing of work, delivers up to 2 tons pressure. Marks hard materials like stainless steel.

DEFIANCE MACHINE & TOOL COMPANY

1920 S. VANDEVENTER Dept. QD ST. LOUIS 10, MO.

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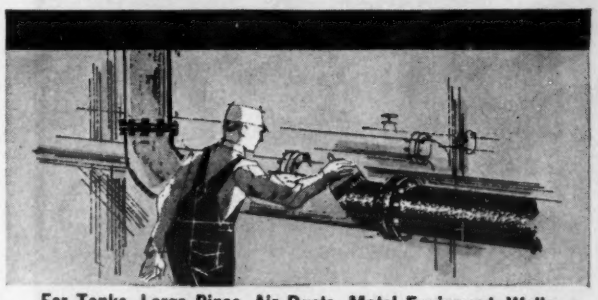
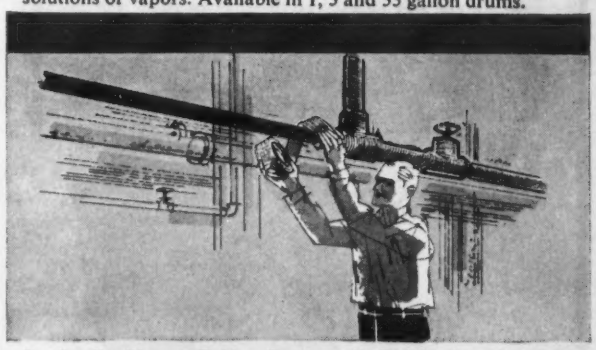
END ALL DRIP AND RUST PROBLEMS IN YOUR PLANT THESE TWO PROVEN WAYS!

Industrial plants know Mortell products offer more positive protection than any other drip-and-rust preventive. Maintenance men know that paints or compounds of paint and fish oil provide little or no permanent protection. Rust-inhibiting NoDrip Plastic Coating is a moisture-proof insulation that *does* stop condensation . . . forms a seamless jacket . . . *does* stop corrosion. NoDrip Tape, with its triple insulating barrier, is equally dependable.



For Tanks, Large Pipes, Air Ducts, Metal Equipment, Walls, Ceilings, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP PLASTIC COATING

The heavy consistency of NoDrip outlasts many coats of paint or ordinary rust-preventives. Permanently insulates and protects. Applies easily with trowel, brush or special spray. Non-toxic, odorless and non-flammable. Resists acid, alkali, brine solutions or vapors. Available in 1, 5 and 55 gallon drums.



For Smaller Pipes or Tubing, Permanently End Condensation Drip, Rust and Corrosion With NoDRIP TAPE

An easy-to-use, wrap-around pipe covering, perfectly pliable, cork-filled, completely self-adhering. Forms an air-tight, 100% vapor- and moisture-proof jacket. Fits snugly even around tees, unions, angles, valves. Cuts maintenance costs—makes out-of-the-way storage areas useable—ends slip and slide floor hazards. No need for vapor seals, brads, fasteners or tools of any kind.

At all leading hardware, mill supply and plumbing jobbers. For complete information and technical handbook, write

Mortell COMPANY

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EPOXYSTRIP

PAINT STRIPPER—Saves Time and Money!

A new more powerful paint stripper that outstrips all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies . . . with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing!

- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

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BECK EQUIPMENT COMPANY

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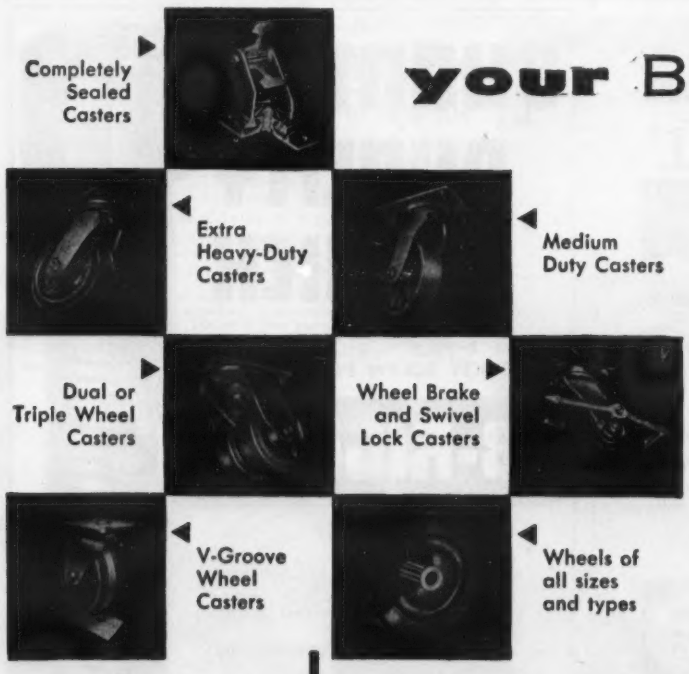

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Albion casters checkmate your materials handling problems. They are versatile, dependable, economical and available *right now*. Whether you need a caster for light, medium, heavy or extra heavy duty requirements—standard or special—Albion casters are the practical answer.

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• Handles Multiple operations at one time!
• Speeds up production!
• Reduces maintenance costs!

All the cost-cutting, production-increasing versatility and construction features you need to increase your profits and speed up your deliveries are combined in this one Kling Jack-of-all-jobs machine. You can choose the one best for your needs from three sizes offered . . . Write for Kling Combination Bulletin 347A.

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Export Distributor: Simmons Machine Tool Corp., 50 E. 42nd St., New York 17
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SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

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TEFLON	$115.95
BUTYL RUBBER	$ 47.95
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RETAINING RING
ECON-O-KIT

400 Truarc Cadmium Plated Rings
—84 Sizes—70% of Ring Sizes Used in Industry

Save—eliminate many purchase orders for small quantities of retaining rings — Get most sizes used on your equipment with only ONE order — in one shockproof, plastic case. Sizes from ¼ to 2½ inches in the three most used Truarc series of internal, external and universal crescent ring designs. All rings meet National Aircraft Standards NAS 669 and NAS 670. Low priced at $34.50 per kit.

Installation and removal tools also available.

Packaged Merchandise Co.
3067 W. 117th St. • Cleveland 11, Ohio

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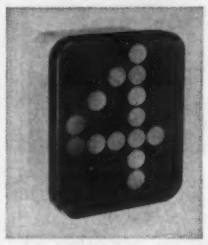
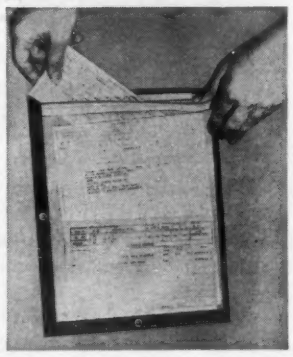
COUNTING INDICATORS
neon type has 4½-in. number



Easily observed at distances to 100 ft and angles up to 70 degrees, this counting indicator accepts input pulses, registers the decimal count, and generates an output pulse at a count of 10 to drive the next counting indicator. A high light level is produced with low power neon tubes and optics. Available models count at rates up to 100 kc and 1 mc, accept 10-line inputs from switches and low level transistor circuits, and accept four-line binary-coded-decimal inputs (8-4-2-1 and 4-2-2-1) from low level transistor circuits. • **Navigation Computer Corp.**, 1621 Snyder Ave., Philadelphia 45, Pa.

▲ For more details circle NED-310 F on enclosed inquiry slip ▲

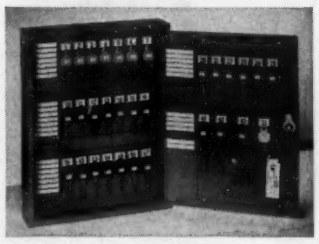
JOB TICKET ENVELOPE
clear plastic type has zipper



Transparent job ticket envelope made from clear acetate and vinyl materials protects job tickets, work sheets, prints, and charts no matter how much they are handled. A plastic zipper seals out dust and grime, keeping contents clean and readable. Over-all sizes for the Kleer-Vu zippered envelope is 10½ x 13½ in. A ¼-in. eyelet on both short and long side permits hanging either horizontally or vertically. • **American Kleer-Vu Plastics, Inc.**, 76 Madison Ave., New York 16, N. Y.

▲ For more details circle NED-311 F on enclosed inquiry slip ▲

KEY CABINETS
file system uses color control

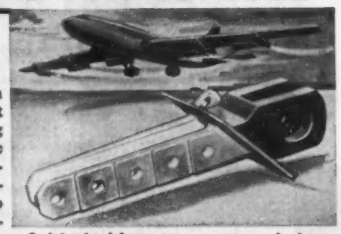


Visual control system for 5 to 99,000 keys uses ColorCaps in 10 colors to identify groups, floors, departments, or other organizational requirements. The pliable plastic caps fit every type of lever and cylinder lock key and are housed in cabinets with hooks. ColorCaps are impervious to heat and moisture and are equipped with removable white or colored labels. Steel cabinets are surface mounted or built into a wall. Each cabinet has a visible key index. Key location cards are hung on hooks from which keys have been taken. • **Saxton Barrett Co.**, 2251 Lincoln Ave., Altadena 50, Calif.

▲ For more details circle NED-312 F on enclosed inquiry slip ▲

NEWS from the NRC Vacuum MICRONICLE*

SAFER AIRCRAFT



Failure of high tensile steel aircraft parts such as landing gear structures have been traced to embrittlement from hydrogen picked up during electroplating. Such parts are now finished with a new vacuum cadmium coating process which provides protection against corrosion without causing embrittlement.

Thinner films of other metals are being vacuum deposited to develop improved semi-conductor and micro-molecular circuits and to produce low cost decorative finishes on metals and plastics.

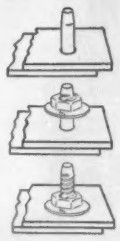
*FREE NRC Vacuum Micronicle

A periodical containing details of above and other news about the field of high vacuum. Write on your company letterhead.

NRC EQUIPMENT CORPORATION
A Subsidiary of National Research Corporation
DEPT. ED-3, 160 Charlemont St., Newton 61, Mass.

▲ For more details circle NED-313 F on enclosed inquiry slip ▲

SAVE THREADING COSTS!



Get your Threads Free by fastening with PALNUT® SELF-THREADING NUTS

Automatically form deep, clean threads while turning on unthreaded studs, rods and wire

• Low price
• Easy, fast assembly
• Strong, vibration-proof grip seated or unseated
• May be removed and re-used on same stud
• Use on zinc die cast studs; steel, brass, aluminum, high-impact plastics
• Get literature and free samples

WASHER TYPE—STYLE SD. Performs functions of nut, lockwasher and flat washer. Resilient spring tension safe for fragile parts. Stud sizes: 1/8", 5/32", 3/16", 1/4".

REGULAR TYPE—STYLE SR. Ideal where space is limited. Uses shorter studs, less seating area. Internal wrenches can be used. Stud sizes: 1/8", 5/32" and 3/16".

ACORN TYPE—STYLE SC. Decorative nut covers stud ends to protect against scratching, snagging or tearing. Stud sizes: 1/8", 5/32" and 3/16".

THE PALNUT COMPANY, 45 Glen Road, Mountainside, N. J.
Division of United-Carr Fastener Corp.
Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ont.

PALNUT® Lock Nuts and Fasteners
for quick, secure fastening at low cost

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MOST VERSATILE UTILITY FAN

• compact, rugged, reliable
• set it on the floor, suspend it from wall or ceiling
• fan turns freely in a full circle, locks easily and positively in any position
• portable model in sizes from 20" to 36" — wheel model in sizes from 24" to 36"

For details on this amazingly versatile man and materials cooling fan, write for your free copy of Bulletin A-109 or call your nearby Hartzell field office.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
62 Thomas Blvd., Piqua, Ohio A member of AMCA

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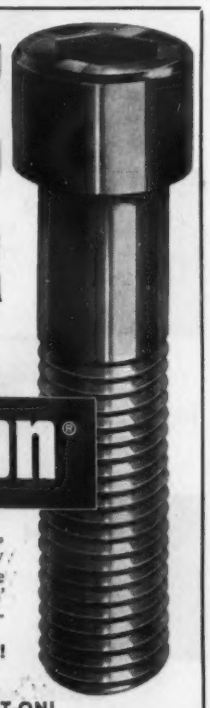
QUANTITY QUALITY QUICK



. . . yours with SOCKET SCREW PRODUCTS by

B-RIGHT-ON®

To get exactly *what* you want, *when* you want it, specify B-RIGHT-ON! Immediate service from selected mill supply houses' stocks. Write for detailed design-dimensional brochure!
COMPLETE SOCKET SCREW LINE!

® You can do better with B-RIGHT-ON!
THE BRIGHTON SCREW & MFG. CO.
1957 Reading Road, Cincinnati 2, Ohio

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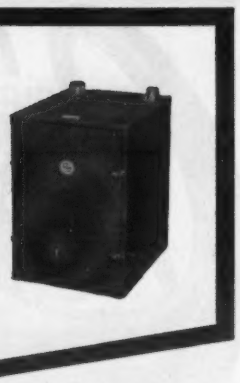
how to trap dust
that damages your machines and hurts company morale



Easy-to-move **TORIT** dust collectors trap dust at its source!

Untrapped dust costs money: "secretly" forces precision machines out of line, limits production. Torit dust collectors are unitized for custom installation—save more money, usually more efficient than central (built-into-building) system. Torit unit operates only when machine or combination of machines it protects are on. Filtered air may be returned to room to save heat. Many models and sizes, all self-contained, easy to move. Write today to . . .

TORIT *manufacturing co.*

Dept. 201, 1133 Rankin St., St. Paul 16, Minn.

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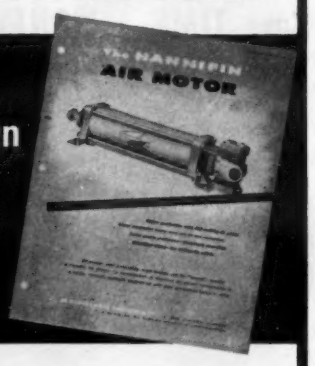
NEW BULLETIN ON HANNIFIN AIR MOTORS

New rugged design ...with long-life features!



New cylinder design with hardened *and* chrome plated piston rod, one-piece non-score piston construction, and simplified transfer tube.

New valve design with stainless steel reciprocating disc, guarantees against solenoid coil burn-out. Also features built-in speed controls with self-locking adjusting screws.

This compact power-package can cut your production costs. Write for your copy of the bulletin today.

HANNIFIN COMPANY
527 South Wolf Road • Des Plaines, Illinois
A DIVISION OF PARKER-HANNIFIN CORPORATION

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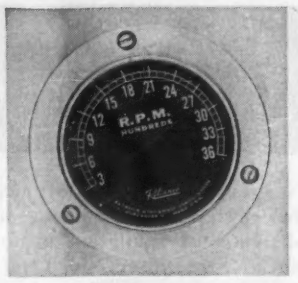
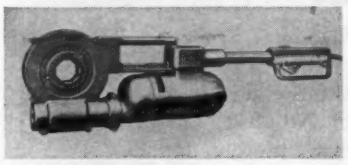
TACHOMETERS
feature improved readability



Improved design of Reliance tachometers provides greater readability. Units incorporate the Glo-Point indicator and quick-vision scales. Tachometers are nonmagnetic, weather resistant, individually hand calibrated instruments custom made to fit the installation and are accurate to within ½ per cent. • **Curtis & Marble Machine Co.**, Barbour Stockwell Instruments Div., 80 Cambridge St., Worcester 3, Mass.

▲ For more details circle NED-320 F on enclosed inquiry slip ▲

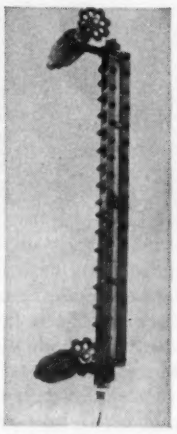
POWER PIPE THREADER
portable unit for ¼ to 4-in. pipe



Powered by a ¾-hp motor, the Sioux portable power pipe threader is operated by one hand after it is in place on the pipe. The 20-lb, 26-rpm tool threads ¼ to 1-in. pipe in 20 sec with direct drive; 1 to 2-in. pipe in 1 min, 24 sec with a speed reducer attached; and 2 to 4-in. pipe with an adapter which fits geared die stocks. Housing and motor mounts are Tuff Amaloy, a ductile, high strength aluminum alloy. Tool will also thread bolts, open and shut valves, pull wire through a conduit, dig holes with an auger, and lift up to 1000 lb with the Sioux 1509 portable winch. • **Albertson & Co.**, Sioux City, Iowa.

▲ For more details circle NED-321 F on enclosed inquiry slip ▲

ELECTRICALLY HEATED GAGES
heat liquids to get accurate level



External tube-type electrically heated gages are installed where steam is not available for heating various liquids to obtain an accurate liquid level. They are used for close control of temperature in the gage glass and, in cold weather, prevent gage freezing and breakage. The cartridge heater has ½-in. stainless steel sheathed manganese-nickel wire, and operates on 120 v ac, with wattage output to meet requirements. Temperature control is within gage column. Equipped with electrically heated jacketed valves, gages can have explosionproof construction in any material to meet corrosive or special conditions. • **Jerguson Gage & Valve Co.**, 80 Adams St., Burlington, Mass.

▲ For more details circle NED-322 F on enclosed inquiry slip ▲

GRIPPER® woven wire SLINGS
here's SAFETY for any lifting job

No weak links to break . . . no thin strands to snap . . . no soft core to rot . . . nothing to tear suddenly and drop the load. That's the safety story of Gripper Slings. Spiral wire construction also gives the Gripper Sling complete flexibility to hold any sized load in a firm, yet gentle, grip. And, Gripper Sling's smooth, broad bearing surface won't cut or score stock . . . practically eliminates load damage.

Gripper Slings, pretested to meet load specifications are available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes, alloys or Neoprene or PVC covered slings available. Write for FREE CATALOG and name of your nearest materials handling distributor.

The Cambridge Wire Cloth Co.
Department C • Cambridge 6, Md.

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VIBRATING DRYERS and COOLERS
with Variable-Amplitude Drive for Materials in Process

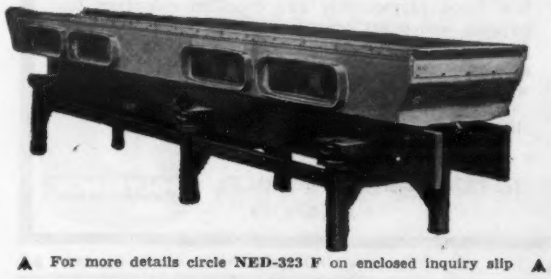
Direct Air Types, Indirect Steam or Air-Heated Types

Conveying speed may be varied to suit your application. Air temperatures to suit the most heat-sensitive materials. Tests conducted in our plant on no-charge basis. Rental equipment available for tests in your plant.

Send for Catalog No. 953. The Jeffrey Manufacturing Company, 952 North Fourth Street, Columbus 16, Ohio.

JEFFREY

CONVEYING • PROCESSING • MINING EQUIPMENT... TRANSMISSION MACHINERY...CONTRACT MANUFACTURING



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CUT HANDLING COSTS - - - STOCK MORE IN LESS SPACE

LOW-COST, STACKBIN-IN-STACKRACK UNITS PAY FOR THEMSELVES IN 3 WAYS

SAVE SPACE — Individual units stack easily and lock securely as high and as long as you need. Seven different size units available.

SPEED PRODUCTION — Stackbins reduce handling time. Can be used intra-plant in processing, sub-assembly, assembly and stockroom. Roller Bearing Slide Stackracks available for heavier contents. Locking Pallets supplied for unit load handling.

REDUCE INVENTORY TIME — Accessibility of Stackbins for weight count speeds inventory taking; visibility of contents simplifies control.

STACKBIN-IN-STACKRACK COMBINATIONS are made of heavy gauge steel with all welded construction and baked enamel finish.

LOW-COST STACKBIN PRODUCTS ARE SOLD DIRECT — A factory trained, Stackbin Sales Engineer will study your plant requirements, at no obligation, and will make specific recommendations for handling and storage efficiency. Buy only as many units as you need.

WRITE TODAY FOR FULL INFORMATION
STACKBIN CORP. 1081 Main St., Pawtucket, R. I.
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., "Perth"

STACKBIN® SYSTEM
"Stacked and Still Accessible"

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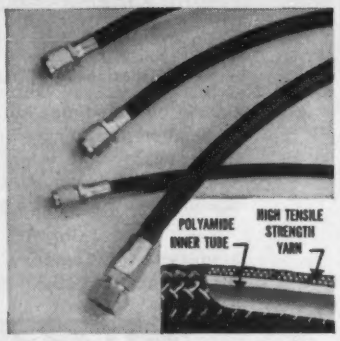
Announcing **NEW NYLAFLOW®** *Pressure Hose*

Weighs 80% Less and Outperforms, Outlasts Rubber Hose of Equal Burst Strength



Specially formulated nylon inner tube reinforced with high tensile yarn and abrasion resistant cover make new NYLAFLOW ideal for jobs requiring exceptional resistance to flex, pressure pulse and vibrational fatigue.

Unaffected by hydraulic fluids and rocket fuels. Very low freon permeability and excellent resistance to caustics and other organic solvents. Odorless, non-toxic, non-corrosive. Won't embrittle in storage. Operates in −80°F to +250°F temperatures. Available with compact lightweight fittings in all standard sizes.

Write for Booklet BR-3H.

THE POLYMER CORPORATION OF PENNA.
Reading, Pa.

POLYPENCO

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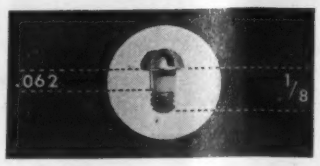
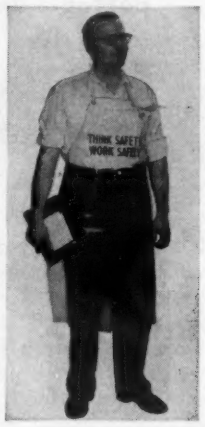
SMALL INSULATED SCREWS have dielectric Mylar sleeve



An integral cladding of Mylar polyester film on the shank of these Sleev - Scrus provides electrical insulation between the screw and parts assembled with it. Screws are an economical answer to fastening problems in electronic components and assemblies. Outside diameter of insulation is no greater than the thread OD. Sizes from No. 1 up are offered, with shank lengths to specification. Various metals are available, and heads can be Phillips or slotted. Insulation has 10,000-v dielectric strength and withstands up to 130° C. • Pylon Co., 200 N. Main St., Attleboro, Mass.

▲ For more details circle NED-327 F on enclosed inquiry slip ▲

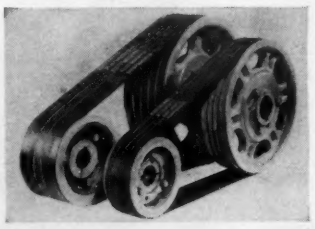
PLASTIC WORK APRONS carry stenciled safety slogan



"Think Safety—Work Safely" is stenciled in large dark green letters across the bib of No. 840 transparent vinylite Slogan Aprons. Although primarily intended for protection, aprons also aid plant safety programs by bringing this safety message to the attention of each worker. Low-cost aprons measure 33 x 40 in. Special slogans or trademarks are offered at a slight additional cost. • Standard Safety Equipment Co., 431 N. Quentin Rd., Palatine, Ill.

▲ For more details circle NED-328 F on enclosed inquiry slip ▲

BELT DRIVES compact units have higher capacities



Ample horsepower capacity with minimum bulk is achieved in compact Hi-Cap Wedge belt drives. Picture compares conventional QD (quick detachable) V-belt drive at left with a Hi-Cap Wedge drive at right, both of which meet 30-hp requirements with a 1.4 service factor. Belts are narrow without sacrificing sidewall contact area and resist harmful effects from oil. In general, driver and driven sheaves are smaller, and face widths, drive center distances, and total weight are less than those of conventional V-belt drives. The Hi-Cap Wedge drive will deliver 47 hp compared to 44.3 hp for the other drive. • Fort Worth Steel & Machinery Co., 3600 McCart St., Ft. Worth, Tex.

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Now-Specify VARFIL Sleeving and Tubing . . .

and get these 5 BIG Advantages

- HIGHER DIELECTRIC RETENTION
- GREATER FLEXIBILITY
- MORE HEAT RESISTANCE
- AVAILABLE IN COILS
- CAN BE AFTER-TREATED

AVAILABLE IN FOLLOWING NEMA CLASSES
CLASS B-A-1 7000 VOLTS AVERAGE
CLASS B-B-1 4000 VOLTS AVERAGE
CLASS B-C-1 2500 VOLTS AVERAGE
CLASS B-C-2 1500 VOLTS AVERAGE

Even under the most severe operating conditions, Varfil Sleeving and Tubing retains its average dielectric strength. Twist it, tie it, bend it, wrap it, knot it. Remains just as pliable as when you started. Won't crack, peel or suffer dielectric loss. Heat Varfil 2000 hours at 110° C.—1,000 hours at 125° C.—and even for extensive periods at 150° C. It won't break down. Can be after-treated in baking and varnishing operations. Reacts better than other oleoresinous materials and synthetic coated tubings. Available in handy coils so you can cut the exact lengths you need . . . no waste. Standard colors. Wide range of sizes. Exceeds or meets all A.S.T.M. specifications.

Varflex CORPORATION
Makers of Electrical Insulating Tubing and Sleeving

SEND TODAY FOR FREE SAMPLE FOLDER

VARFLEX Corporation, 510 W. Court St., Rome, N.Y.

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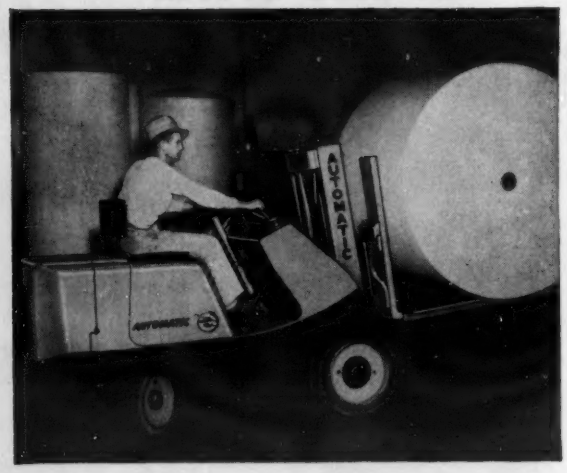
AUTOMATIC SLASHES GAS LIFT TRUCK OPERATING COSTS 3 WAYS



1 • CUTS OUT-OF-POCKET COSTS

Savings up to 30% on fuel costs achieved through use of a simplified electric power train. New 3-way adjustable seat increases driver efficiency... reduces fatigue. Simplified balanced design saves on downtime.

2 • CUTS MAINTENANCE COSTS

Hydraulic pump life increased by 50%. Oversize brakes last up to 30% longer and are adjustable without removing wheels. Advanced-design roller mounting increases life of uprights. No clutch or hydraulic torque converter to cause trouble.

3 • INITIAL COST REDUCED

No longer a premium-priced truck, but priced competitively with trucks which use hydraulic torque converters.

LEARN MORE about how Automatic's gas-operated, electric-driven trucks can slash your operating costs. Available in capacities 3,000 to 10,000 lbs. with cushion tires, 3,000 to 8,000 lbs. with pneumatic tires. Write today to: Automatic Transportation Company, Division of The Yale & Towne Manufacturing Company, 61 West 87th Street, Dept. H-O Chicago 20, Illinois.

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STOP THIEVES WITH "BLACK LIGHT!"

Ideal burglar protection for spacious areas at a reasonable cost, the transistorized Kidde Photo-Electric Burglar Alarm System uses an invisible beam of "black light," is completely tamper-proof, requires no special wiring. It can be installed simply and easily by one man. For more information about this new, U.L.-approved protection, send the coupon or write to Kidde today!

Kidde Ultrasonic & Detection Alarms, Inc.
624 Brighton Road, Clifton, New Jersey

Send me your Photo-Electric Burglar Alarm Data Sheet U-2.

NAME _____
ADDRESS _____
CITY _____ STATE _____

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GPE Controls

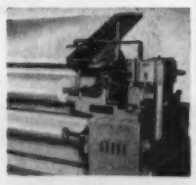
WEB and STRIP GUIDES

Save TIME...MONEY...MATERIAL!

43 MODELS ...one just right for your job!

Medium-duty model with air sensing, positioning knives on rubber calender.

Photoelectric reflected light head following line on printed carton stock to eliminate slitting.



Light-duty unit with air sensing, applied to textile machinery.

Send for NEW Catalog EG-84

Photos and diagrams representing thousands of installations; complete details on world's broadest line of web and strip guides.

- Laminate without trim!
- Speed up presses while you keep accurate side register!
- Slit without side trim!
- High-speed textile tentering with minimum selvage.
- Track conveyor belts, abrasive belts, etc., up to 5,000 feet per minute.
- Winds 100-ton steel coils evenly to protect edges.
- Web edge position, porosity, opacity, or reflectance sensed by air or photoelectric heads.
- Non-clog air sensing head (patented) never touches web, works perfectly with linty, dusty, or abrasive webs.
- Hydraulic actuation for unlimited power and speed, high frequency response.
- Engineered by specialists in industrial automatic controls.

GPE Controls, Inc.
258 E. Ontario St., Chicago 11, Ill.

GPE Controls — A GENERAL PRECISION COMPANY — formerly Askania Regulator Company

A subsidiary of General Precision Equipment Corporation

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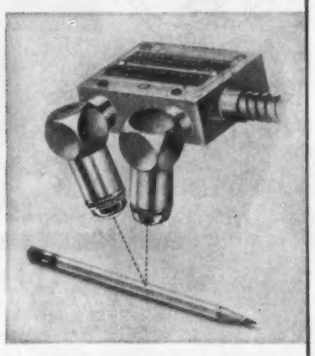
Photomation Miniature "ELECTRIC-EYES"

Serving Industry for Over a Quarter Century

- Packaging
- Textiles
- Glass
- Cigarettes
- Candy
- Drugs
- Printing
- Beverage
- Cosmetic
- Pharmaceutical and process industries



The miniature electric-eyes are engineered for the production line. They are small enough to fit into "impossible places" for registration, monitoring and general production control. Direct or partial cut-off...close adjustments for light strength and sensitivity of pick-up.

From coast-to-coast a staff of engineers is available to handle your problems. On the spot quotes and recommendations. Write for descriptive material.

Photomation inc. 96 SOUTH WASHINGTON AVE., BERGENFIELD, NEW JERSEY

ELECTRONIC INSTRUMENTS and CONTROLS for INDUSTRY

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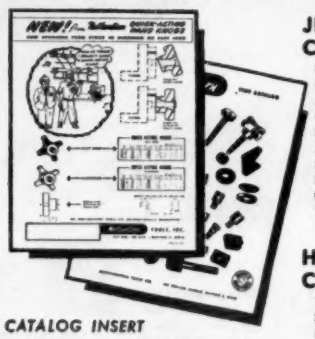
NEW

ALUMINUM CAST IRON

QUICK-ACTING HAND KNOBS



JIG AND FIXTURE COMPONENTS

LATCH BOLTS
CAST IRON HAND KNOBS
ALUMINUM HAND KNOBS
QUARTER TURN SCREWS
SHOULDER SCREWS
JIG FEET (3 TYPES)
SPHERICAL WASHERS
FIXTURE KEYS
KNURLED HEAD SCREWS
TOGGLE SHOE CLAMPS & V-PADS

HOLD DOWN AND CLAMPING TOOLS

T-NUT & STUD SETS
STEP BLOCK & CLAMP SETS
FLANGED NUTS
CUT THREAD STUDS
TEE NUTS
COUPLING NUTS
ADJUSTABLE STEP BLOCKS
STRAP CLAMPS (PLAIN & STEP TYPE)

CATALOG INSERT
NEW 16 PAGE CATALOG
CATALOG INCLUDES TRACING TEMPLATES

FREE! WRITE TODAY

Northwestern 127 HOLLIER AVE., DAYTON 3, OHIO

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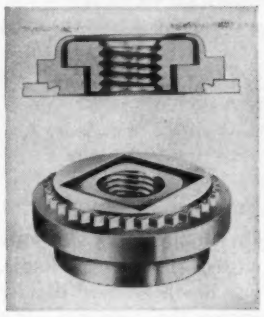
SOLENOID VALVES for 0 to 1500-psi pressures

Direct lift action and full-ported construction of Series 1500 solenoid valves insure reliable operation regardless of pressure drop or flow conditions. The bubble-tight, leakproof, and packless valves are designed for pressures from 0 to 1500 psi and temperatures from −350 to 450° F. Bronze and stainless steel units are offered in ¼ to 1-in. pipe sizes. • **Atkomatic Valve Co.,** 545 W. Abbott St., Indianapolis 25, Ind.

▲ For more details circle NED-336 F on enclosed inquiry slip ▲

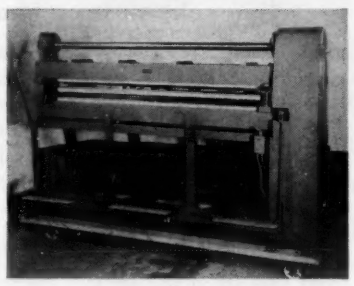
SELF-CLINCHING FASTENERS used in sheets too thin to thread



Load bearing theads in metal sheets that are too thin to thread are provided by this self-clinching fastener. Its captive floating nut permits up to 1/32-in. compensation for slightly off-center holes. Made of carbon steel with a rust resistant finish, it is suited for all materials with Rockwell B hardness less than 70 and sheet thicknesses over 0.040 in. Thread sizes are No. 4 to 10. Fastener is clinched into the metal sheet by any pneumatic or hydraulic squeezing tool. • **Penn Engineering & Mfg. Corp.,** Doylestown, Pa.

▲ For more details circle NED-337 F on enclosed inquiry slip ▲

MULTIPUNCHING MACHINE for aluminum extrusion gang work



Individual punching units of Fallsington multipunching machines are movable along the entire working length so that different lengths can be gang punched, pierced, and slotted with a minimum of downtime. Dies can also be furnished as a complete unit. Working lengths of 48, 72, 96, and 120 in. are available in the 25-ton capacity, welded steel, open gap frame machine. Suited for fabricating aluminum extrusions and sheet metal, it has a 3-in. stroke, 7-in. shut height, ½-in. shut height adjustment, and is powered by a 3-hp motor. • **Fallsington Mfg. Co.,** Fallsington, Pa.

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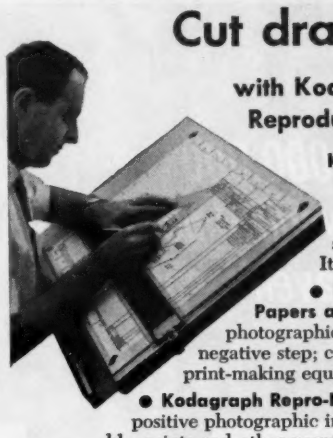
Whether you mark materials, parts, products or packages, there's a Markem machine ready to bring low cost, high production identification or decorative marking to your plant. From plastics to fabrics . . . transistors to camera parts . . . multi-color decorative marking to high production offset marking — there's a *Markem Method* to meet your marking needs. One source, with 47 years of experience in all industries, can supply the machines, type, inks, accessories and service you need. For complete information, write Markem Machine Company, Keene 3, New Hampshire.

MARKEM

EVERYTHING INDUSTRY NEEDS . . . FOR PROFITABLE MARKING . . . SINCE 1911

▲ For more details circle NED-340 F on enclosed inquiry slip ▲

Cut drafting costs with Kodagraph Reproduction Materials!



Kodagraph Reproduction Materials help eliminate retracing . . . produce better shop prints . . . simplify print production. It will pay you to use them.

- **Kodagraph Autopositive Papers and Film** produce positive photographic intermediates without a negative step; can be exposed in standard print-making equipment.
- **Kodagraph Repro-Negative Paper** gives you positive photographic intermediates directly from blueprints and other negatives.
- **Kodagraph Contact Papers** produce outstanding negatives in contact photocopy printers.
- **Kodagraph Projection Papers** give quality enlargements from microfilm or negatives.

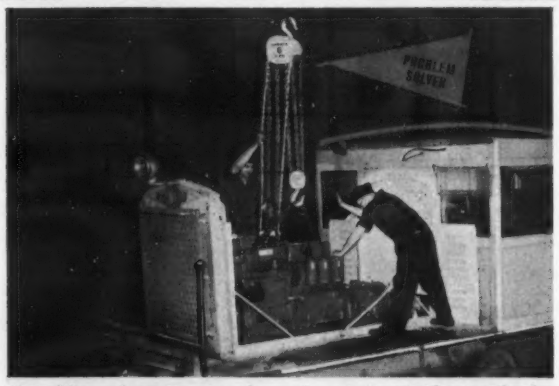
Write today for free booklet

Kodagraph Reproduction Materials

EASTMAN KODAK COMPANY
Graphic Reproduction Sales Div.
Rochester 4, N. Y.

Kodak

▲ For more details circle NED-341 F on enclosed inquiry slip ▲



"Backbreakers" wiped out by Budgit® Chain Blocks

Eliminate tough lifting and plant maintenance stops being a costly muscle-aching job. A large midwestern heavy equipment producer found this only too true. Now Budgit Aluminum Chain Blocks handle routine troublesome maintenance jobs — repairing furnaces, machinery, moving large pipe, motors, valves — that demand shifting as well as lifting. They are also solving handling problems at numerous metalworking machines.

Backsaving Budgit Chain Blocks can cut *your* costs. Capacities range to 10 tons. Spark and corrosion resistant models available. Ask your Shaw-Box Distributor for a demonstration. Or write for Bulletin 15025-1C.

60 C-3

BUDGIT CHAIN BLOCKS
A product of
MANNING, MAXWELL & MOORE, INC.
Shaw-Box Crane & Hoist Division • Muskegon, Michigan
In Canada: Manning, Maxwell & Moore of Canada, Ltd., Galt, Ontario

▲ For more details circle NED-335 F on enclosed inquiry slip ▲

Tugit® gives men a work break that saves

Tugit is the compact, portable link chain hoist of countless uses — at any angle, anywhere. It gives maintenance men a real work break — is geared to lift a ton with only 40 lbs. of muscle effort. They use it for everything from positioning piping to placing machinery — with complete safety.

Whether Tugit is used for maintenance or production jobs indoors or outdoors, time, effort, and money are saved. Ask your Shaw-Box Distributor for a free demonstration. Tugit comes in ¾ to 3 ton capacities. Spark and corrosion resistant models. Write for Bulletin 15015-1C.

60 B-2

TUGIT HOISTS
a product of
MANNING, MAXWELL & MOORE, INC.
Shaw-Box Crane & Hoist Division • Muskegon, Michigan
In Canada: Manning, Maxwell & Moore of Canada, Ltd., Galt, Ontario

▲ For more details circle NED-339 F on enclosed inquiry slip ▲

99-hour week for Budgit® Electric Hoist

Star Machine Company, Spring Lake, Michigan, keeps this Budgit Push Button Electric Hoist on 18-hour service over plating tanks 5½ days a week. Metal stampings are dipped into 11 tanks by the hoist operator. Fast push-button action permits 12 "jogs" a minute — terrific abuse for any small electric hoist, regardless of the application.

Star Machine gets continuous plating service with a complete push-button hoist installation that cost no more than $500. To learn more about this fast, tough, two-brake P:B Budgit Electric Hoist, write for Bulletin 15010-15C — or ask your nearby Shaw-Box Distributor for a free demonstration.

60A-4

BUDGIT ELECTRIC HOISTS
A product of
MANNING, MAXWELL & MOORE, INC.
Shaw-Box Crane & Hoist Division • Muskegon, Michigan
In Canada: Manning, Maxwell & Moore of Canada, Ltd., Galt, Ontario

▲ For more details circle NED-342 F on enclosed inquiry slip ▲

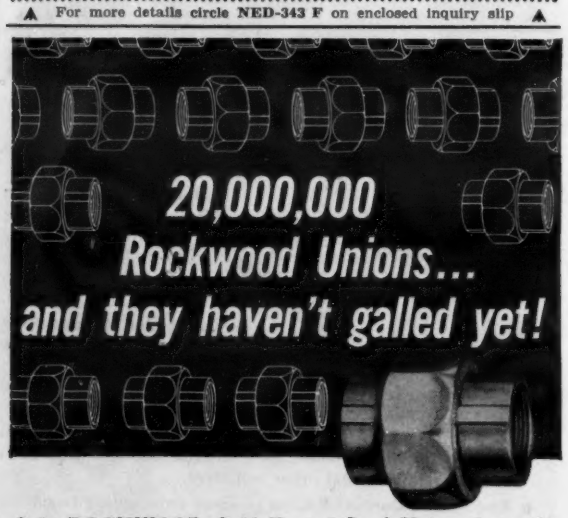
it's BORROUGHS for
STEEL CABINETS

42" and 78" swinging door

YOU will agree that Borroughs swinging-door cabinets are the very last word in design, construction and features. Single central handle with Yale & Towne built-in lock. Shelves adjustable without tools, nuts or bolts. Doors swing completely open. Get more facts . . . send for catalog.

BORROUGHS MANUFACTURING COMPANY
OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

For more details circle NED-343 F on enclosed inquiry slip

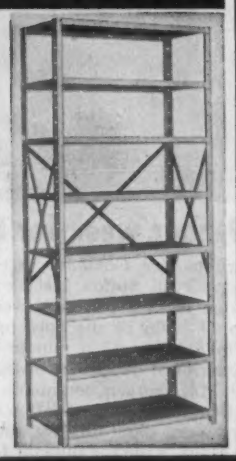


Only ROCKWOOD Cold Forged Steel Unions have the hardness differential which *assures* fast, easy make-up, a tight seal, and freedom from galling. Male seat is heat-treated to a hardness substantially higher than the female seat. Then both seats are forged in place and double-locked under 100,000 and 400,000-pound pressures. Other outstanding features include: special color-coding for instant identification . . . Rockwoodizing which gives all surfaces *positive* protection against corrosion, interchangeable parts. Get complete information now. Write for facts to Rockwood Sprinkler Company, 960 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER COMPANY
A Division of The Gamewell Company
Distributors in all principal industrial areas

For more details circle NED-344 F on enclosed inquiry slip

it's BORROUGHS for
STEEL SHELVING



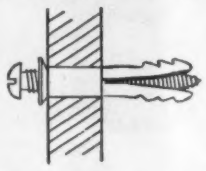
YOU owe it to yourself to learn all the facts about Borroughs steel shelving before you lay out another shelving dollar. It's the easiest-to-assemble shelving on the market. No special tools needed. Shelves adjustable without nuts or bolts. Each unit is complete in itself. More facts for the asking; send for catalog today.

BORROUGHS MANUFACTURING COMPANY
OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

For more details circle NED-345 F on enclosed inquiry slip

SCREW ANCHORS hold up to 100 lb

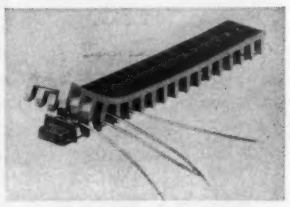
Simple instructions listed below are followed to install these plastic screw anchors permanently in plaster, drywall, tile, or masonry. They are made of Tenite butyrate and pulverized metallic aluminum and will hold up to 100 lb. Three sizes are usable in sheet metal work, electrical and plumbing installations, sound systems, and temperature control systems. • Fastway Fasteners, Inc., 1676 E. 28th St., Lorain, Ohio.



1. Drill hole to recommended size below.
2. Insert anchor in hole as far as collar permits.
3. Insert screw and tighten.

For more details circle NED-346 F on enclosed inquiry slip

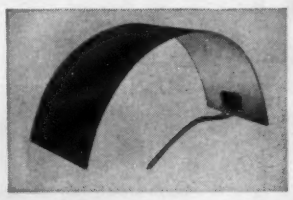
TERMINAL BLOCK COVERS made in three types of rubber



Danger of fires, short circuits, and disruption of current are eliminated by use of rubber terminal block covers. Three types are made of neoprene, Buna-N, or silicate rubber. Flexible casing type has a wall between each terminal pole and a slit outer wall to allow wires to be passed through. Pliable, easily installed barrier strip type has a grooved divider between each terminal to receive the terminal strip wall. Third type is a thimble type terminal cap which fits over an individual terminal pole. Protruding shield opening at either side protects the connecting wires. • TA Mfg. Corp., 4607 Alger St., Los Angeles 39, Calif.

For more details circle NED-347 F on enclosed inquiry slip

FLEXIBLE ELECTRIC HEATERS thin rubber type heats to 450° F



Description of Watlow silicone rubber electric heaters which appeared in *NED, April* '60 erroneously stated that sizes range up to 10 x 3 in. These flexible, waterproof, and very thin heaters are available in any size from 3/8 x 1 in. up to 10 x 3 ft and can be made in any plane shape, configuration, or thickness. They attach to surface to be heated by a metal backing, a pressure sensitive adhesive surface, or special holding devices. Heaters operate at up to 450° F continuously, or up to 600° F for short periods. Leads can be brought out at any point on the heater surface. • Watlow Electric Mfg. Co., 1376 Ferguson Ave., St. Louis 14, Mo.

For more details circle NED-348 F on enclosed inquiry slip

SPITFIRE Grinding Discs

GREATER SAFETY MARGIN! Aluminum Oxide Discs feature built-in barrier protection plus fully reinforced edges to eliminate limpness and excessive grit loss. Spitfire Discs provide 25% greater safety margin on "snagging" and "hang up" operations.

FASTER, COOLER CUTTING! Sharp, uniform cutting action makes full use of disc surface . . . speeds up grinding and sanding even under toughest conditions. Cooler running to add extra life, longer production performance.

A TYPE AND SIZE FOR EVERY JOB! Available in "Special," "Standard" and "Heavy Duty" discs for everything from light gauge metal sanding and polishing to high speed finishing operations. Grit sizes 16 through 180. Disc diameters include 6", 7", 8" and 9⅛" with ½" and ⅞" arbor holes.

Write for "Spitfire" folder!

JEWEL RANO
COATED ABRASIVES
Belts • Rolls • Sheets • Discs • Specialties
ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

For more details circle NED-349 F on enclosed inquiry slip

TRAFFIC COPS for HIGH VACUUM SYSTEMS

Kinney®

BBSM VACUUM VALVES

The new Series BBSM KINNEY Vacuum Valves, in sizes 1", 1½", 2" and 3" are especially designed for High Vacuum applications where soldered or brazed manifolding is employed. These Bronze Bellows Sweat Fitted Valves are of the globe type—with non-rising stem and positive isolation of rotating parts. Simple to install in the system—replacement of bellows is no problem—stem, cover and bellows form a unit which is easily removed from the valve body by removing 4 cap screws. Get all the facts on these tested, proved and approved KINNEY Vacuum Valves.

KINNEY VACUUM DIVISION
THE NEW YORK AIR BRAKE COMPANY
3612F WASHINGTON STREET • BOSTON 30 • MASS.

For more details circle NED-350 F on enclosed inquiry slip

NEW Manchester MILLING CUTTERS

OFFERS . . .
★ CARBIDE INSERTS
★ SHEAR CUT ACTION
★ MORE USEABLE CARBIDE
★ IT'S ECONOMICAL TO BUY AND MAINTAIN
★ QUICK SETTING GAGE INCLUDED

M-50 5" dia. cutter (with 1-½" dia. pilot hole) 3, ⅜" wide carbide inserts

M-35 3-½" dia. cutter, 1-⅛" dia. shank, 2 carbide inserts ¼" or ⅜" wide

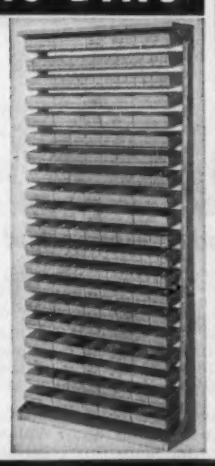
M-25 2-½" dia. cutter, ¾" or 1" dia. shank, 2 carbide inserts ¼" or ⅜" wide

The new Manchester P.D.Q. Milling Cutters are made of heat treated alloy steel and are designed to handle the "tough jobs". Inserts may be changed in the machine. Exclusive double "V" clamp automatically registers the cutting tools. Designed for low H.P. machines. Special shanks available on request. Write for literature.

PORTAGE Double-Quick, Inc.
1043 SWEITZER AVENUE • AKRON 11, OHIO

For more details circle NED-351 F on enclosed inquiry slip

it's BORROUGHS for
small parts BINS



YOU can get maximum small parts storage in minimum space with "Handee Andee" small parts bins—the bins with complete flexibility, accessibility, visibility. Three standard sizes—each will hold four different sizes of bin boxes. There's a world of extra features in "Handee Andee" small parts bins. Send for catalog today.

BORROUGHS MANUFACTURING COMPANY
OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

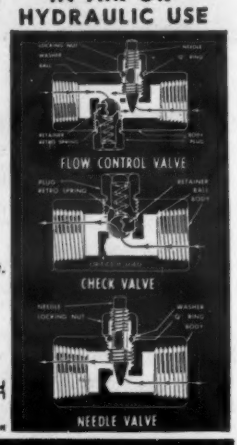
For more details circle NED-352 F on enclosed inquiry slip

Get Easier, More Accurate Cylinder Speed Control with Pneu-Trol® VALVES IN AIR OR HYDRAULIC USE

2,000 (brass or aluminum) and 5,000 (steel) p.s.i.

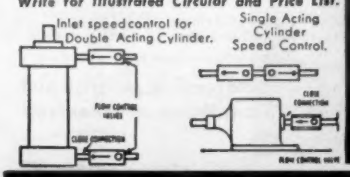
Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Check Valve and Needle Valve incorporate single function features of Flow Control Valve. All valves available in 5 female pipe sizes — 1/8" to 3/4". Valve bodies are made from brass, aluminum, steel or stainless steel. Attractive Prices — Immediate Delivery.

Write for Illustrated Circular and Price List.



Inlet speed control for Double Acting Cylinder.

Single Acting Cylinder Speed Control.



AUTO-PONENTS INC — 2929 GRANT STREET, BELLWOOD (Chicago Suburb) ILLINOIS

▲ For more details circle NED-353 F on enclosed inquiry slip ▲

For the finest in friction, rubber or plastic tape, always look to ACCURATE . . . suppliers of "your best buy in tape."

Non-raveling
Straight tearing
High tensile strength
Strong adhesion
Highly insulating

ACCURATE TAPE
FRICTION ··· RUBBER ··· PLASTIC

ACCURATE MANUFACTURING CO.
Garfield, New Jersey

▲ For more details circle NED-354 F on enclosed inquiry slip ▲

SQUARE D *announces* NORPAK

. . . A SIMPLER, *FASTER*, STATIC CONTROL

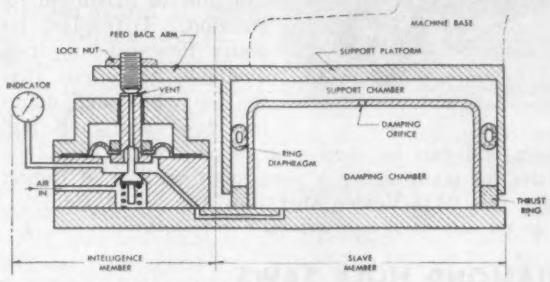
Write FOR THE COMPLETE STORY
Square D Company
4041 North Richards Street, Milwaukee 12, Wis.

SQUARE D COMPANY
wherever electricity is distributed and controlled

▲ For more details circle NED-355 F on enclosed inquiry slip ▲

MACHINERY MOUNT maintains level within 0.0005 in. per foot length despite load change

Once leveled with a simple Allen-wrench adjustment, this Serva-Levl machinery mount automatically compensates for changes in load and floor level variations.

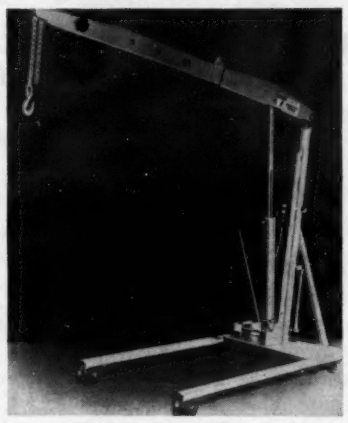


It maintains level within 0.0005 in. per foot of length with repeat accuracy within 0.1 per cent. Basically a pneumatic servomechanism, mount operates from standard plant air supply and effectively isolates vibration and shock since mounted equipment is supported on a cushion of air.

Any change in platform load initiates automatic air-operated compensation in the pneumatic mounts. Unit operates individually, or several mounts can be "slaved" to one intelligence source. Mount is currently used on long-bedded lathes where load varies with turret travel and on jig borers and grinders, surface plates, and similar precision measuring devices. ● **Barry Controls, Inc.**, 700 Pleasant St., Watertown 72, Mass.

▲ For more details circle NED-356 F on enclosed inquiry slip ▲

MOBILE HYDRAULIC CRANES redesigned 1-ton capacity series

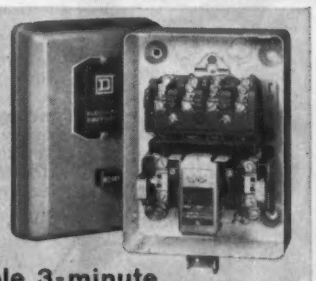


Lightweight, high-strength construction and a new two-speed hydraulic valve are features of redesigned series of manually-operated, 1-ton capacity hydraulic floor and truck cranes. Units permit one man to lift, transport, and position loads in one operation. Four models include a convertible floor-truck unit, and one truck or pedestal-base model. New control valve affords faster lifting speeds with light loads and extra power for heavy loads. Release valve assures fingertip control over lowering speeds, as well as positive holding action. Double-action hydraulic pump, roller-bearing wheels and casters, and waist-high towing handle are standard. ● **Ruger Equipment Inc.**, 160 W. Fourth St., Uhrichsville, Ohio.

▲ For more details circle NED-357 F on enclosed inquiry slip ▲

ONLY SQUARE D STARTERS WITH ONE-PIECE OVERLOAD RELAYS GIVE ABSOLUTE PROTECTION!

Write for the complete story on Square D Starters...



plus this simple 3-minute "JIG-SAW" demonstrator

Write Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY
wherever electricity is distributed and controlled

▲ For more details circle NED-358 F on enclosed inquiry slip ▲

ANY TYPE OR SIZE USG® BRUSH FOR FRACTIONAL HP OR INDUSTRIAL MOTORS

Many successful applications have been made on all types and sizes of rotating electrical equipment with USG motor and generator brushes and contacts manufactured by The United States Graphite Company. USG brushes are available in OEM production quantities or for replacement purposes in the following grades: carbon, carbon-graphite, electro-graphitic, graphite and metal-graphite. Special grades can be developed to meet your specific needs.

Write today for Engineering Handbook B-56 and the Brush Grade Supplement.

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN
B-282-1

▲ For more details circle NED-359 F on enclosed inquiry slip ▲

Now... air in a can to operate the Binks Wren Air-Brush

Binks Wren Air-Brush is a unique, canned air supply for the Binks Wren Air-Brush. It gives you portability you can hold in your hand. It provides air for up to 30 minutes of intermittent spraying of paints and touch-up materials.

G419

Complete details in Bulletin A59-1R1. Ask your Binks distributor for a copy, or write direct.

Binks — EVERYTHING FOR SPRAY PAINTING

Binks Manufacturing Company
3122-34 West Carroll Avenue
Chicago 12, Illinois

REPRESENTATIVES IN PRINCIPAL U.S. & CANADIAN CITIES · SEE YOUR CLASSIFIED DIRECTORY

▲ For more details circle NED-360 F on enclosed inquiry slip ▲

SQUARE D's New Aluminum Plug-In Duct with Exclusive I-BEAM DESIGN

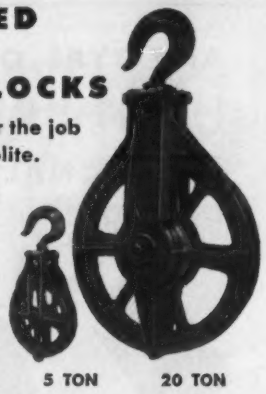
Write for Bulletin SD-110. Address Square D Company, 1601 Mercer Road, Lexington, Kentucky.

SQUARE D COMPANY
wherever electricity is distributed and controlled

▲ For more details circle NED-361 F on enclosed inquiry slip ▲

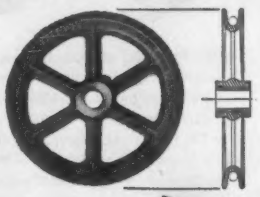
TONNAGE RATED DUROLITE WIRE ROPE BLOCKS

You get the right block for the job when you buy a Durolite.



Durolite single blocks from 2 to 30-ton capacity are available from stock in sizes from 6 to 18 in. (bronze bearings), 8 to 42 in. (roller bearings). Skeleton-type frames of high strength steel combine durability with light weight to save wear on the running rope.

DUROLITE SHEAVES



Available as a separate item in stock sizes from 6 to 18 in. (alloy steel), 20 to 24 in. (cast steel) or as part of Durolite Blocks.

•

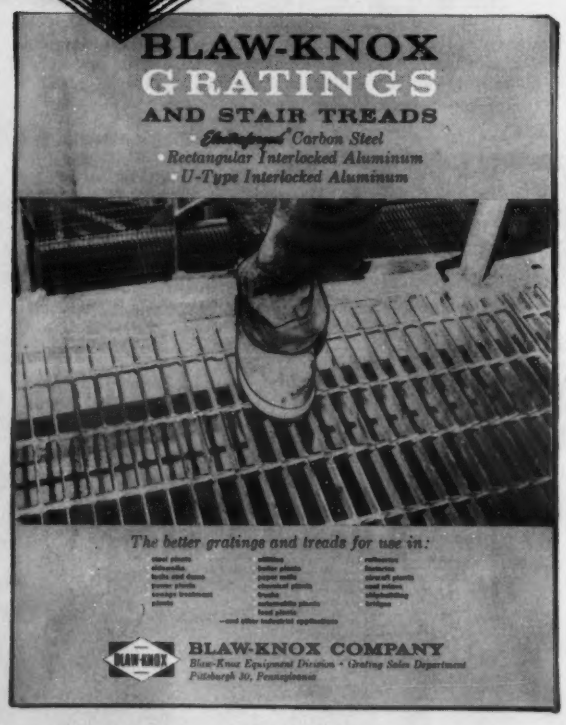
Write or call for new Catalog I. Photos, specs. and tonnage ratings will give the answers to your block requirements.

SAUERMAN BROS., Inc.

646 S. 28th AVENUE, BELLWOOD, ILLINOIS • Linden 4-4892

▲ For more details circle NED-362 F on enclosed inquiry slip ▲

FAST FACTS ON BLAW-KNOX GRATING



A NEW DATA FILE for fast information on designs and specifications of Blaw-Knox Grating and Stair Treads

The whole story compacted into eight pages for quick reference ■ New Specifications ■ Latest Installation Methods ■ New Fabricating Methods

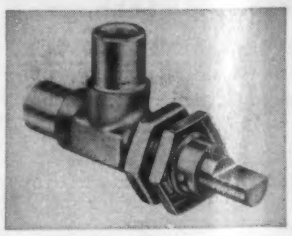
To get your FREE copy, write!

Blaw-Knox Equipment Division
Pittsburgh 38, Pennsylvania

BLAW-KNOX
GRATING

▲ For more details circle NED-363 F on enclosed inquiry slip ▲

WATER METERING VALVE
various sizes for hose or tubing



Turning the valve stem through 180 degrees controls the output of this brass metering valve from full flow to maximum restriction. Intended for water flow control, it is available in various sizes for use with small diameter hose and tubing. Stem end can be used with or without a knob, the latter for maintaining a permanent setting. • **Robert Mfg. Co.**, 9035 Venice Blvd., Los Angeles 34, Calif.

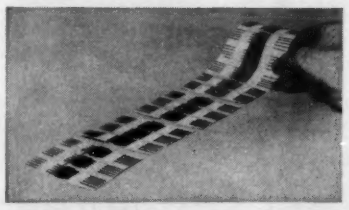
▲ For more details circle NED-364 F on enclosed inquiry slip ▲

DIAMOND HOLE SAWS
in ½ to 14-in. sizes for masonry

Powered by standard heavy duty drills or special coring machines, Target diamond hole saws are offered in ½ to 14-in. diameters. Core holes are readily drilled in any masonry wall, floor, ceiling, or other surface. Natural diamonds are precision-positioned in wear resistant metal bond and mounted on steel tube. Types are made for drilling brick, tile, stone, and concrete; coring and reinforced concrete; and heavily reinforced concrete. • **Robert G. Evans Co.**, 6020 Troost Ave., Kansas City 10, Mo.

▲ For more details circle NED-365 F on enclosed inquiry slip ▲

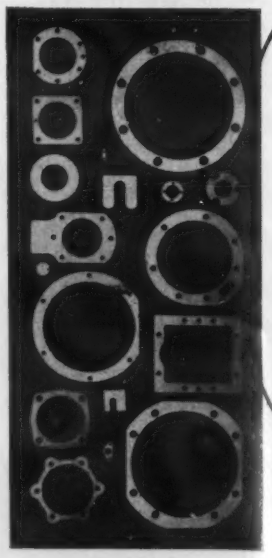
LEAD TAPING MACHINE
packages resistors, diodes in strips



Lead straightening and taping machine which automatically tapes resistors, capacitors, or diodes into a continuous strip is now offered with a strip cut attachment. It rapidly cuts or perforates the strip into packages containing any desired uniform quantity or sequence of quantities. Components are automatically counted while being packaged. Capacity is 8000 parts per hour. Machine straightens leads, shuts off after processing the predetermined number of components, and automatically trims lead wires. With optional equipment it can inspect all components and orient diodes and capacitors by polarity. Components with up to 3-in. body lengths are handled. • **Universal Instruments Corp.**, 137 E. Frederick St., Binghamton, N. Y.

▲ For more details circle NED-366 F on enclosed inquiry slip ▲

EASY WAY TO CUT COSTS
on GASKETS, WASHERS and SHIMS



A wide variety of dies accumulated over more than 50 years of service to industry, enables Chicago-Wilcox to supply many of your gasket, shim and washer needs without a die charge.

Whether you need just a few items or large quantities, these stock dies make it easy for you to save money and get faster delivery. Available in metallic, non-metallic and plastics to meet your production requirements.

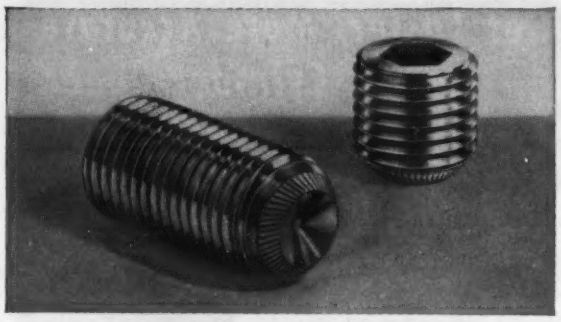
Find out about WIL-PAK PLASTIC SHIM STOCK that identifies thickness by both color and gauge number. Write for Bulletin No. 570.

Write for Stock List and Prices.

CHICAGO-WILCOX Mfg. Co.

7713 South Avalon Avenue, Chicago 19, Illinois

▲ For more details circle NED-367 F on enclosed inquiry slip ▲



Still the most reliable . . .
High Torque UNBRAKO with knurled cup point

- Up to 40% higher tightening torques . . . more holding power . . . than ordinary socket set screws.
- Proved 6 times more vibration resistant than set screws with plain cup or specialty points.
- Deeper socket for maximum key engagement, more wrenching power without reaming.
- Fully formed threads for greater overall strength; precision heat treat prevents failures due to brittleness or decarburization.

Sizes #0 through 1 inch in a complete range of materials and finishes. See your authorized SPS distributor or write direct for literature and samples.

INDUSTRIAL FASTENER Division **sps**

JENKINTOWN 24, PENNSYLVANIA

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Need GLASS tubing or rod?

NEW BOOKLET gives dimensions, weights, and prices for both standard and special PYREX brand glass tubing and rod.

Looking for glass tubing and/or rod that can stand up to high temperatures and corrosion? Need heavy wall, capillary or graded seal tubing? Want specs and prices for special sizes? Here in 16 pages are all the answers you need for specifying *and* purchasing. Get your copy of Bulletin TPL-1 today. Write to Corning Glass Works, 56 Crystal Street, Corning, N.Y.

CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

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HERRINGBONE*

SUITS . . . wire rope users in construction, mining, lumbering and in all kinds of manufacturing industries. Why? Well, because it's new, different and very, very strong. It's two ropes-in-one-rope; Lang lay *and* regular lay. Herringbone has excellent flexibility, resistance to shock and abrasion; smooth, easy operation over and around sheaves and drums; standout spooling properties and structural stability.

Ask Roebling's Wire Rope Division, Trenton 2, New Jersey for the full Herringbone facts.

*Reg. Applied for

ROEBLING

Branch Offices in Principal Cities
John A. Roebling's Sons Division
The Colorado Fuel and Iron Corporation

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Better Steel Think about Rule Dies!

FOR SHEARING, BLANKING, PUNCHING, PIERCING

YOU CAN MAKE STEEL RULE DIES FASTER, BETTER, CHEAPER WITH *RICHARDS* STEEL RULE DIE-MAKING EQUIPMENT!

Build steel rule dies in your own plant! Production cost and waiting time go down when Richards Equipment goes to work for you! More and more progressive manufacturers are turning to steel rule dies for faster, higher-profit work on all types and gauges of metal.

Richards' fifty years of experience as pioneer manufacturers of steel rule die-making equipment and supplies provides you with a complete service.

J.A. Richards Company

NORTH PITCHER STREET • KALAMAZOO, MICHIGAN

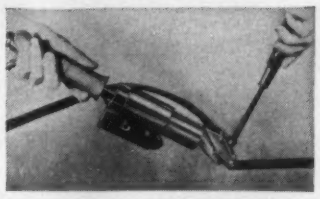
▲ For more details circle NED-371 F on enclosed inquiry slip ▲

It's easy to cut costs with this hopper. Use it instead of a tote box for handling all kinds of wet or dry, hot or cold bulk materials. Pick it up with your lift truck . . . move it to its destination . . . flip the latch and the hopper automatically dumps its load, rights itself, locks itself. One man does the entire job in a fraction of the usual time. Made of 3/16" steel plate with continuous arc-welded seams. Heavier plate if desired. Eight sizes, 1/8 to 4 yard capacity, mounted on live or semi-live skids with choice of wheels. Standard models shipped from stock. Also available in stainless steel or galvanized. For details and literature, write ROURA IRON WORKS, INC., 1415 Woodland Ave., Detroit 11, Michigan.

ROURA *Self-Dumping* **HOPPER**

▲ For more details circle NED-372 F on enclosed inquiry slip ▲

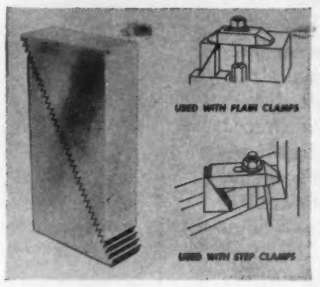
THERMOPLASTICS WELDING GUN
offered with interchangeable tips



Rigid and plasticized polyvinyl chloride, polyethylene, and polypropylene are among thermoplastic materials that are welded by the 12-oz stainless steel Allen-Universal welding gun. It uses the hot-gas (air) welding method and incorporates Nichrome heating elements and an air cooled handle. Round, flat, V-orifice, and bonding tips are interchangeable. A roller tip joins sheet linings at up to 40 ipm. An optional control valve regulates air stream volume to prevent burning at start of welds. An easily attached light is also available. Gun sells for $45 and accessories range from $10 to $35. • **Esto Mfg. Co.**, 1817 Highland St., Allentown, Pa.

▲ For more details circle NED-374 F on enclosed inquiry slip ▲

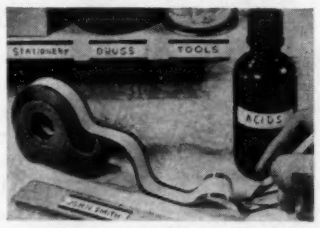
WORKHOLDING STEP BLOCKS
made of aluminum for clamping



Nine sizes in this line of aluminum step blocks are usable with either plain or step clamps as shown. Three sizes of standard blocks are 1 in. wide, three heavy duty sizes are 1½ in. wide, and three double duty blocks are 2 in. wide. All are interchangeable with each other, with all sizes of steel step blocks, and with all sizes of step clamps. • **Northwestern Tools, Inc.**, 127 Hollier Ave., Dayton 3, Ohio.

▲ For more details circle NED-375 F on enclosed inquiry slip ▲

LABELING TAPE
marked with pen, pencil, or stylus



Using the familiar "magic slate" principle, Mark-On pressure-sensitive labeling tape can be written on with pen, pencil, or stylus. Tape sticks to glass, metal, plastic, leather, wood, paper board, and even waxed surfaces. It is unaffected by temperatures from −40 to 160° F and will not erase, yellow, dry out, or come off unless pulled off. Red, blue, green, or black trim colors are offered in regular tape widths of ½, ⅝, ¾, and 1 in. Other widths can be ordered. Regular 400-in. roll is supplied with plastic dispenser, and 800-in. rolls with 3-in. cores will fit any heavy duty dispenser. • **Tapemark Co.**, 434 Pleasant Ave., St. Paul 2, Minn.

▲ For more details circle NED-376 F on enclosed inquiry slip ▲

a complete selection of **low cost** standard models

Howard motor parts sets

Ratings from 1/200 to 1 H.P.
Howard standard motor parts include armatures and fields, brushes and brushholders, rotors, stators and fans. If you use motor parts, write Howard for complete information.

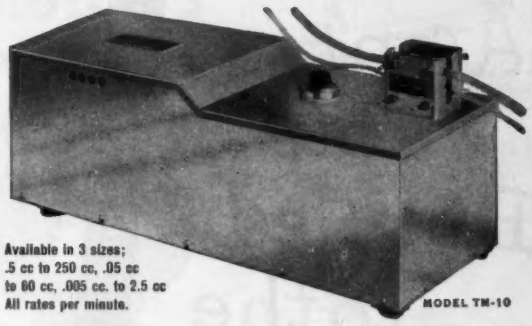
POWERED BY HOWARD

HOWARD INDUSTRIES, INC., 1740 State Street, Racine, Wisconsin
Divisions: Electric Motor Corp., Cyclohm Motor Corp., Loyd Scruggs Co.

▲ For more details circle NED-378 F on enclosed inquiry slip ▲

LOW FLOW PUMPS

for accurately metering flows from .005 cc to 250 cc/min.



Available in 3 sizes;
.5 cc to 250 cc, .05 cc to 60 cc, .005 cc. to 2.5 cc
All rates per minute.

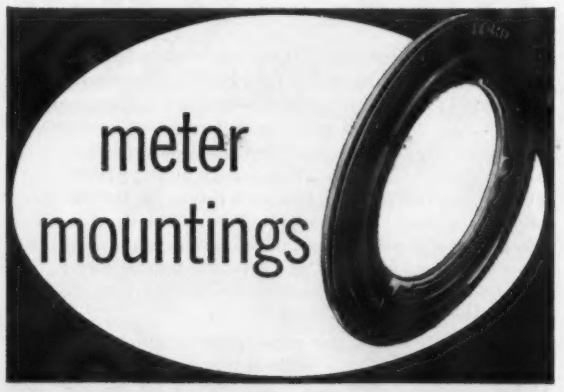
MODEL TM-10

Accuracy of flow can be maintained for many hours. Pump output is practically independent of variations in pressure. Vernier controls permit easy calibration and good duplication of desirable flow rates. Material being moved never comes in contact with pump mechanism. Wavelike motion of steel fingers forces material through tygon tubing.

SIGMAMOTOR, INC.
33 N. MAIN STREET • MIDDLEPORT, N. Y.

▲ For more details circle NED-379 F on enclosed inquiry slip ▲

protect instruments against shock/vibration



Safeguard instrument performance and accuracy with these economical bonded rubber mountings. Use with most standard meters (GE, Westinghouse, Weston, etc.), install in any position and get positive protection from multi-directional disturbances. Adds only ½" to meter radius. Compact one-piece construction. Quality elastomers bonded to rugged metal rings for extra-long life. Original equipment manufacturers are invited to write for Bulletin 601.

Vibration/shock/noise CONTROL — LORD® BONDED RUBBER

LORD MANUFACTURING CO., ERIE, PENNSYLVANIA

▲ For more details circle NED-373 F on enclosed inquiry slip ▲

NOW—low-cost shock and vibration control

Here's a strong, one-piece mounting for furniture, portable tools, motors, engines, blowers, compressors, pumps, machinery. Use it wherever you need efficient shock or vibration attenuation. Versatile design permits shear or compression loading. Threaded studs reduce assembly costs. High-strength bond and oil-resistant elastomer assure long service life. Standard sizes—load ratings to 1050 lbs. Many items stocked for prompt delivery to original equipment manufacturers. Write for bulletin.

Vibration/shock/noise CONTROL — LORD® BONDED RUBBER

LORD MANUFACTURING CO., ERIE, PENNSYLVANIA

▲ For more details circle NED-377 F on enclosed inquiry slip ▲

assure smooth, quiet power transmission

Specify Lord Flexible Couplings—get these performance benefits. Efficient isolation of torsional vibration and shock. Accommodation of all misalignment—angular, parallel, axial. Permanently quiet operation. Constant speed transmission—no backlash. No lubrication. Long life under tough operating conditions. Standard bonded rubber couplings from 1/50 to 100 hp. Special designs with torque capacities from inch-ounces to foot-tons. Original equipment manufacturers are invited to write for Bulletin 205.

Vibration/shock/noise CONTROL — LORD® BONDED RUBBER

LORD MANUFACTURING CO., ERIE, PENNSYLVANIA

▲ For more details circle NED-380 F on enclosed inquiry slip ▲

Direct-Air VALVES for Easy AUTOMATION

COMPLETE VALVE CATALOG Ready!

MEADMATIC

4-way pilot-operated air valve for direct or remote control—no delicate electrical hookup needed.

A light momentary touch on limit switch actuates main valve piston—response is instantaneous! Catalog free.

THE MEAD MAN CAN HELP YOU CUT COSTS Now!

Write today!

MEAD SPECIALTIES COMPANY

4114 N. Knox Ave., Dept. 1260, Chicago 41, Ill.

PATHFINDER IN AIR POWER AUTOMATION

▲ For more details circle NED-381 F on enclosed inquiry slip ▲

Aren't You Entitled to the Best?

If you were a doctor, you wouldn't use a cheap stethoscope. If you were a violinist, you wouldn't think of playing a concert on a scratchy fiddle.

As a man of standing in your profession—you, too, are entitled to the best. It doesn't make sense to settle for a cheap lead holder, the most important, the most used tool in your profession, whether you are an engineer, designer, draftsman or architect.

A.W.Faber Locktite 9800 is not a luxury. It is a necessity. It is the ultimate means by which you translate your creative skills. It is the bedrock of your ability, the criterion of your worth—the direct influence of your livelihood—and the index of your future success. In the light of these values, can you afford to use a less-than-best lead holder?

Only Locktite 9800 has all of these exclusive advantages:

- **Long tapered spiral metal grip that reduces finger fatigue.**
- **Gun-rifled clutch that grips the lead like a bulldog.**
- **TEL-A-GRADE indicator which instantly shows degree of lead in use.**

Plus perfect balance and featherweight lightness.

Try Locktite, buy Locktite 9800 today, the top quality lead holder backed by two centuries of experience.

FULLY GUARANTEED!

If it ever happens, that any part of a LOCKTITE Holder breaks in normal usage, the entire holder will be replaced free of charge.

#9030 Imported CASTELL Black Gold Refill Leads fit any standard holder. Perfectly mated with LOCKTITE. Sold by all good Dealers.

A.W.Faber-Castell Pencil Co., Inc., Newark 3, N. J.

A.W. FABER CASTELL DRAWING

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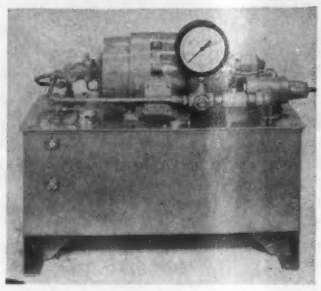
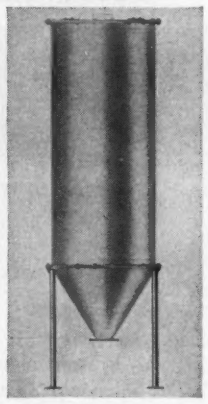
HYDRAULIC POWER UNIT delivers up to 1½ gpm at 1500 psi



Large hydraulic volume at low pressure for rapid closing or traversing, and small volume at high pressure for a working stroke are produced by the Palco Hi-Low hydraulic pump unit. Low pressure circuit has an 18½-gpm volume at 450 psi, after which a high pressure pump takes over to deliver 1½ gpm at up to 1500 psi. Price with 33-gal reservoir is $625. • **Palley's,** Dept. NED-60, 2263 E. Vernon Ave., Los Angeles 58, Calif.

▲ For more details circle NED-383 F on enclosed inquiry slip ▲

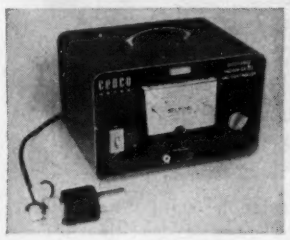
STORAGE STRUCTURES glass-lined, 8-ft diameter units



Protection of bulk materials where stringent contamination and sanitation requirements exist is provided by Permaglas storage structures. They have an 8-ft diameter and are offered in 10, 15, and 20-ft heights, all glass-lined inside and out. The flanged end units have a 60-degree concentric cone bottom with an 18-in. diameter discharge opening. The cone is glass-lined internally. Structures may be mounted on standard structural steel supporting members. • **A. O. Smith Corp.,** Harvestore Products Div., Kankakee, Ill.

▲ For more details circle NED-384 F on enclosed inquiry slip ▲

VACUUM GAGE & CONTROLLER measures 0.001 to 20 microns Hg



Developed to simplify vacuum control work, this Cenco discharge vacuum gage and controller measures directly in range of 0.001 to 20 microns Hg. Gage tube operates on a cold cathode principle, and instrument operates on 115-v ac. Calibrated against the mercury column of a McLeod gage using dry air, it measures total pressure of all condensable vapors and permanent gases in a vacuum system. An integral transistorized dc amplifier energizes a relay for switching action. Unit will also operate an auxiliary power relay. • **Central Scientific Co.,** 1700 Irving Park Rd., Chicago 13, Ill.

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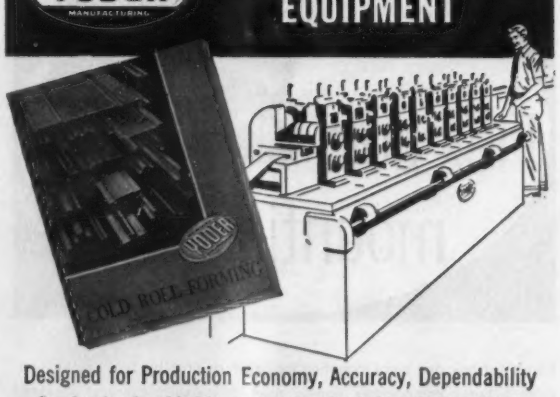
ENGINEERING YODER MANUFACTURING

COLD ROLL-FORMING EQUIPMENT



Designed for Production Economy, Accuracy, Dependability

Send today for this 92 page handbook "Cold Roll-Forming". It thoroughly covers production of structural and ornamental shapes from stock up to ½" thick . . . reviews economic and mechanical possibilities of cold roll-forming . . . illustrates end uses and applications of roll-formed shapes.

THE YODER COMPANY
5547 Walworth Avenue • Cleveland 2, Ohio
Please send my copy of Yoder's "Cold Roll-Forming"

NAME _____
COMPANY _____ POSITION _____
ADDRESS _____
CITY _____ STATE _____

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HOW MUCH IS half a furnace WORTH?

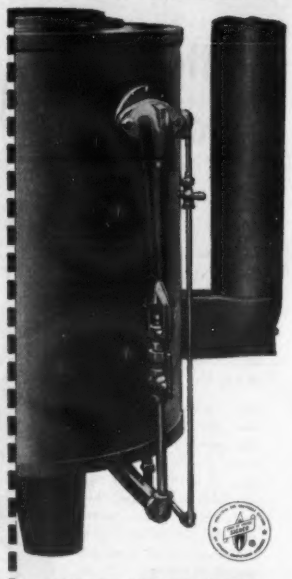
BUZZER REG. U.S. PAT. OFFICE

INDUSTRIAL FURNACES using only low pressure gas give you Full-Value, Fully "Packaged" Venturi Units for every metal working service.

NO BLOWER NEEDED
NO ELECTRICAL POWER
JUST CONNECT TO GAS SUPPLY

Why buy half a furnace? When you uncrate an ordinary unit, you get something like a car without the engine. You need in addition: 1. a costly blower, tools, electrical and other installation contractors, plus maintenance; 2. electrical power, wiring, transformers, surge controls; 3. shop noise suppressors and special remote locations; 4. extra safety precautions due to complex heating systems.

When you specify "BUZZER", you get the whole "packaged" furnace, all ready to connect to your gas supply, all ready to operate. "BUZZER" modern, gas-fired heat treating and melting furnaces give you the quietest, most reliable metal working units available . . . **operative during power shut-downs** . . . completely self-contained, nothing to add except the profits from increased production and savings from maintenance-free operation. Standard and special furnaces available.



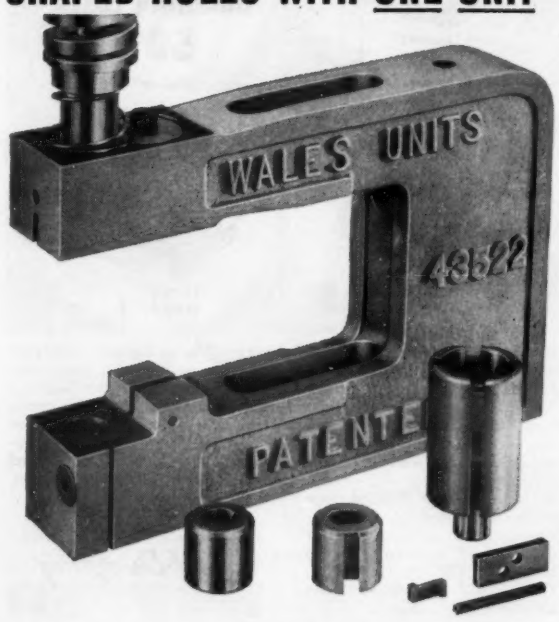
COMPLETE LINE OF "BUZZER" BURNERS FOR CLEANING, RINSING, PICKLING AND OTHER HEAT APPLICATIONS

Write Today for Complete "BUZZER" Catalog No. 1570A

CHARLES A. HONES, INC.
BAldwin 3-1110 — Established 1911
157 SOUTH GRAND AVENUE, BALDWIN, L. I., N. Y.
"BUZZER" Burners & Furnaces for Heat Treating, Melting, Soldering

▲ For more details circle NED-387 F on enclosed inquiry slip ▲

NOW! PUNCH BOTH ROUND AND SHAPED HOLES WITH ONE UNIT



New STRIPPIT "CJ" combines the best features of all other punching units, yet it costs no more than ordinary round-hole units.

Here's greater versatility than ever before in a self-contained hole punching unit. STRIPPIT "CJ" holders and die bases are keyed to take shaped parts. And you pay no more for the "CJ" unit than any competitive round hole unit.

If your current metalworking requirements call for round holes in anything up to ¼" mild steel, the STRIPPIT "CJ" fills the bill. But let's say you get a future job that requires obround, square or rectangular holes. Simply substitute the proper shaped punches, punch guides and die buttons. They're always in stock. You save the cost of a complete new unit or the inconvenience of returning your existing unit to the factory for keying.

Of course you get the same quality which has made STRIPPIT famous for 35 years. Holders are metallurgically correct for their punching range. And a far superior one piece shoulder head punch is standard in both the round and shaped series.

Write now for full information and prices on the new time-saving, money-saving STRIPPIT "CJ".

WALES **STRIPPIT** INC.
227 Buell Road • Akron, New York

WHITON HOUDAILLE INDUSTRIES, INC.

In Canada: Strippit Tool & Machine Company, Brampton, Ontario

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BARRETT SYSTEMS
Engineered to your job

WRITE FOR DESCRIPTIVE LITERATURE

Whatever your materials handling requirements may be, Barrett can do the job efficiently, economically.

BARRETT
Materials-handling engineers for half a century

BARRETT-CRAVENS COMPANY
640 Dundee Road, Northbrook, Illinois. Representatives in All Principal Cities.

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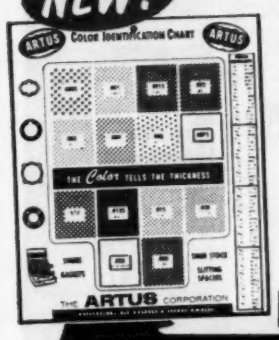
NEW!



A 'MUST' WHEREVER SHIMS ARE USED

ARTUS

PLASTIC SHIMS

THE COLOR TELLS THE THICKNESS

FREE
Write for this handy COLOR CHART, today!

Artus Plastic Shims are real time savers in production and maintenance. They're used by many of America's best known industrial corporations because they're more efficient, more convenient, always available.

Custom shapes to your specifications.

Write for Samples and Literature or Mail Blueprint for Test Sample.

THE ARTUS CORPORATION
201 South Dean St. · Englewood, New Jersey
LOwell 7-0900
formerly INDUSTRIAL PRODUCTS SUPPLIERS

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UNISORB

MODERN 3-IN-1 MACHINE MOUNT
• VIBRATION CONTROL
• LOW COST INSTALLATION
• PRECISION LEVELING

A complete line of Unisorb Pads and Unisorb Level-Rite Mounts for fast and simplified installation of all types of machinery and equipment.

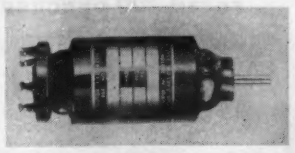
- Cuts installation costs up to 70% . . . eliminates bolts and lag screws . . . speeds installation . . . no drilling required . . . machines can always be moved quickly.
- Eliminates up to 85% of transmitted vibration and noise . . . increases machine life and efficiency . . . reduces maintenance.
- Unisorb Level-Rite provides fast and precise leveling.
- Safe, sure grip . . . can be cemented if needed.
- Unisorb is available in wide variety of densities and thicknesses — for maximum efficiency. Send for bulletin, today.

FED-64

UNISORB 224 SOUTH STREET BOSTON, MASS.

▲ For more details circle NED-391 F on enclosed inquiry slip ▲

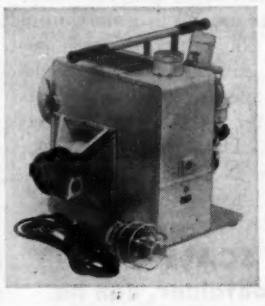
SYNCHRONOUS MOTOR
miniature encapsulated type



Designed to replace motors up to twice its physical size, the Type CMC miniature hysteresis - synchronous motor has a diameter of only 1¼ in. It is epoxy encapsulated for environmental protection and develops ¾ oz-in. of torque at 1800 rpm. Normally wound for 110-v, 60-cycle ac, it can be furnished in lower voltages. Stainless steel shafts, lifetime lubricated ball bearings, and integral terminal block are incorporated. • **Globe Industries, Inc.**, 1784 Stanley Ave., Dayton 4, Ohio.

▲ For more details circle NED-392 F on enclosed inquiry slip ▲

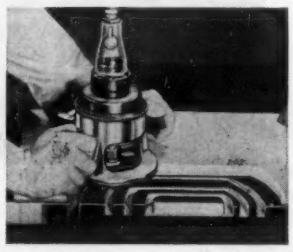
PORTABLE VENTILATOR & HEATER
also supplies 300-w electric power



Improved Model PE-G portable ventilator and heater for manhole and other underground use has an attached 300-w generator for electric light or soldering iron. Powered by a Briggs & Stratton engine converted to propane carburetion, the 78-lb unit delivers from 300 to 800 cfm of fresh heated air. The forced draft burner has input of 10,000 to 45,000 Btu per minute with 98° F temperature rise. In summer unit can be operated as a blower. Identical 62-lb Model PE, less the generator, is also offered. • **Morrison-Pelsue Co.**, 2001 S. Bannock St., Denver 23, Colo.

▲ For more details circle NED-393 F on enclosed inquiry slip ▲

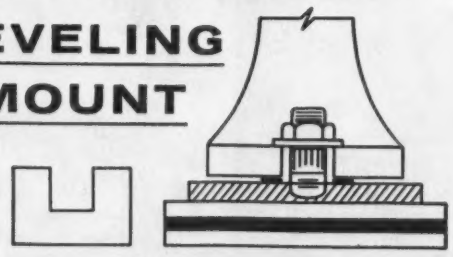
AIR-POWERED ROUTERS
for straight or contour cutting



Capacities from ¼ to ½-in. collets and speeds from 6000 to 15,000 rpm are available in the 61R Series of heavy duty air-powered routers for wood, metal, plastic, and honeycomb. The governed air motors make deep, heavy, and rapid cuts. Depth-of-cut adjustment, self-cleaning operation, large front-end bearing to take radial and thrust cutting forces, and thumb throttle are features. They are available with maneuverable base for portable use or without base for fixture mounting. Power unit only weighs 9½ lb, stands 9¾ in. high, and sells for $285. With base, it weighs 12 lb, is 10 in. high, and costs $325. Operation requires a ⅜-in. ID hose and 90 to 100-psi air. • **Buckeye Tools Corp.**, 5003 Springboro Pike, Dayton 1, Ohio.

▲ For more details circle NED-394 F on enclosed inquiry slip ▲

NEW UNISORB
"Do-it-Yourself"
LEVELING MOUNT



Here's a simple, low-cost way to make your own combination machine mount and leveling device.

(1) Countersink hole in plate for threaded stud, (2) Tack weld stud to plate, (3) Clean floor and plate, (4) Apply cement to both sides of Unisorb and press Unisorb to bottom of plate, (5) Insert stud through bolt hole, (6) Shim between base of machine and top of plate — to required level, (7) Lock in place with locknut.

This Unisorb Mount will reduce transmitted vibration up to 85%, eliminate bolts or lag screws in floor, hole drilling, grouting, and tricky spotting, reduce noise and worker fatigue, and allow machine to operate better and last longer.

SEND FOR UNISORB BULLETIN
Tells more about DO-IT-YOURSELF plus many other ideas on Unisorb machine mountings. Send today.

FED-65

UNISORB Division of The Felters Co. 224 South St., Boston 11, Mass.

▲ For more details circle NED-395 F on enclosed inquiry slip ▲

SERVICE FOR YOUR B&D TOOLS

Check the Yellow Pages under "Tools-Electric" for the location of the nearest Black & Decker factory service branch or authorized service station.

Free tool inspection when requested • Genuine B&D parts used • Factory-trained technicians • Standard B&D Guarantee at completion of recommended repairs • Fast service, reasonable cost, always.

Or write for address of nearest of more than 50 branches and service stations to: THE BLACK & DECKER MFG. CO., Dept. 1906-S, Towson 4, Md.

Black & Decker

QUALITY TOOL SERVICE

▲ For more details circle NED-396 F on enclosed inquiry slip ▲

HERE'S WHY

LINK-BELT CONVEYOR TROLLEYS

MADE IN LINK-BELT'S BALL AND ROLLER BEARING PLANT

RIDE SMOOTHER . . . LONGER

1. EXTRA-LONG LIFE results from carburizing and heat treating wheels, machined from steel tubing.
2. FRICTION IS MINIMIZED because cages space steel balls accurately.
3. FREE-ROLLING ACTION AND HIGH CAPACITY are benefits assured by precision-ground raceways.
4. PRESS-FITTING of bolts or rivets is another long-life feature.
5. NO WHEEL "WOBBLE". Forged steel brackets provide strength to keep trolleys aligned.

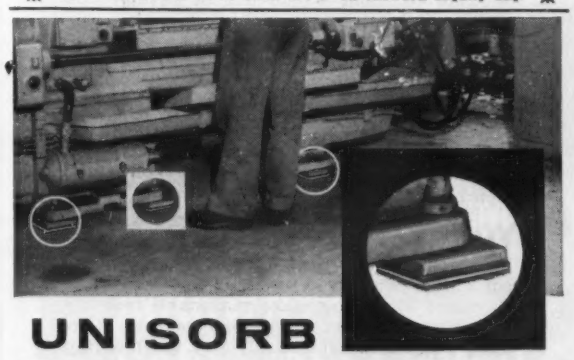
15,005

NEW TROLLEY BOOK 2636 is now available. Send for your copy today.

LINK-BELT

BALL BEARING CONVEYOR TROLLEYS
LINK-BELT COMPANY, Prudential Plaza, Dept. NED, Chicago 1, Ill.

▲ For more details circle NED-397 F on enclosed inquiry slip ▲



UNISORB
Saves over $15.00 on Every Machine Installation

The Minneapolis-Honeywell Regulator Co. Valve Division at Fort Washington, Pa., found that Unisorb pads actually pay for themselves! Here's why:

- Labor costs alone saved about $15.00 per machine (mounting time)
- There were savings on anchoring materials
- Reduces noise and vibration up to 85%
- Greatly reduced hours lost in moving
- Machines kept in alignment
- Provides ease of shop rearrangement
- Machines stay anchored in place

Company after company is discovering these same facts — that Unisorb Pads and Unisorb Level-Rite Mounts can save time and money, and cut noise and vibration, every time a machine is installed.

TRY A SET IN YOUR PLANT! UNISORB is available at leading Industrial Distributors, or write direct for the special Unisorb Money-Back Trial Offer.

FED-63

UNISORB Division of The Felters Co. 224 South St., Boston 11, Mass.

▲ For more details circle NED-398 F on enclosed inquiry slip ▲

TURNS *Every* SHAPE!

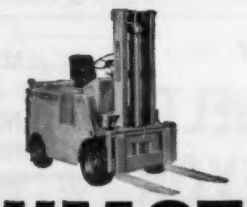
REED

This newer Reed-line Chain Wrench is a Plus-tool: It does every job you can do with a conventional pipe wrench—plus—the jobs a conventional pipe wrench can't do! Reed Chain Wrench has faster, ratchet-like action which permits screwing up or unscrewing from either side . . . without removing the wrench from the pipe. Reed Chain Wrench turns every shape as it works easily where an ordinary wrench won't work at all—close to baseboards, in tight corners and between parallel pipe lines. Reed Chain Wrench holds firmly and securely without "play" or crushing.

ASK YOUR SUPPLIER OR WRITE FOR FREE LITERATURE.

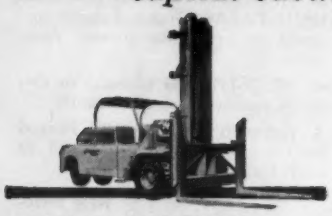
REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA, U. S. A.

▲ For more details circle NED-399 F on enclosed inquiry slip ▲



TOWMOTOR GERLINGER

offers you three complete capital-saving services!



1 YOU LEASE *without down payment!*
You don't make a *down payment* when you use the Towmotor-Gerlinger Lease-A-Truck Plan. You put T-G equipment to work on a continuous, year-'round basis. You just make a small monthly payment — paid out of savings the equipment produces.

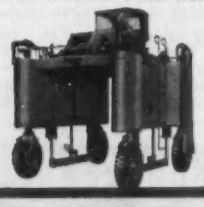
2 YOU RENT *without cash outlay!*
You don't tie up working capital when you *rent* Towmotor-Gerlinger fork lift trucks and material carriers. You put them to work immediately. You start cutting handling costs immediately. Your only cash outlay is one small monthly charge.

3 YOU BUY *and save as you pay!*
You don't pay cash for Towmotor-Gerlinger equipment when you use our low-cost Time Payment Plan. You make reasonable monthly payments. Low interest rates make it easy. Handling economies consistently pay the monthly cost many times over.

Complete factory-supervised maintenance can be included in *any* of the above plans! For complete information, write Towmotor-Gerlinger Rental Division, Towmotor Corporation, Cleveland 10, Ohio.

TOWMOTOR THE ONE-MAN GANG -GERLINGER

FORK LIFT TRUCKS, CARRIERS AND TRACTORS SINCE 1919



Gerlinger Carrier Co. is a subsidiary of Towmotor Corp.

▲ For more details circle NED-400 F on enclosed inquiry slip ▲

PUNCHED CARD CALCULATOR for control and accounting uses, rated 200 punched cards per minute

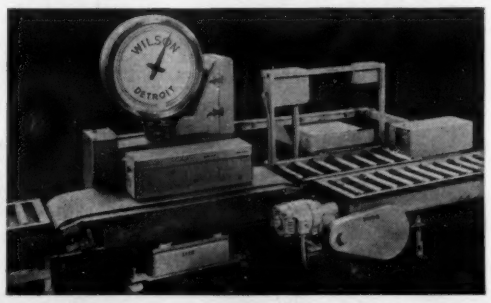
Functions of input, calculation, storage, and output are combined in the single compact cabinet of the IBM 609 solid state punched card calculator. The general purpose electronic unit can be used for the entire range of accounting and control applications, as well as for engineering problems. The 240 positions of magnetic core storage can be increased to 384 positions at the customer's option.

Since all program steps are nonsequential, they may be used in any order. The number of program steps can be increased from the minimum 80 to a maximum of 144. Output-input rate is 200 punched cards per minute. Addition, subtraction, multiplication, and division are performed at high speeds. Machine rents for $1175 per month and sells for $55,000. • **International Business Machines Corp.**, Data Processing Div., 112 E. Post Rd., White Plains, N. Y.

▲ For more details circle NED-401 F on enclosed inquiry slip ▲

AUTOMATIC CARTON SCALE stamps weight on container, can be equipped with transfer equipment

Given application data such as carton size, weight range, position of desired imprint, size of imprint up to 1 in., and production required, the Weight Brander



can be adapted to most types of variable weight packaging systems. The automatic unit weighs the cartons and stamps the weight directly on them, along with a date and code. Duplicate recording of weights can be built into the machine.

Complete unit can be furnished with conveyors, walking beam, or other mechanisms which transfer the object from load station to scale, stamping equipment, or beyond. Production speeds up to 600 units per hour and higher are possible, depending upon size and weight of packages. • **Wilson Automation Co.**, 27101 Groesbeck Highway, Detroit 5, Mich.

▲ For more details circle NED-402 F on enclosed inquiry slip ▲

WORK TESTED and TIME PROVEN

Euclid SERIES S

FEATURES
- Compact, Trouble-free.
- One-piece, heavy steel.
- Combination hoist frame and gear housing prevents misalignment or oil leakage.
- Complete motor interchangeability permits use of any (Standard NEMA "D" Flange Mount Series 180 or 210) motor with integral disc brake.

Chain racked trolley for economy when handling speed is not the key factor. (Easily converted to motor drive.)

Competitively priced, these hoists incorporate all the desirable features of design, operation and maintenance that have characterized Euclid products for more than 50 years.

"S" Hoists are also offered with lug and hook-on suspensions, plain trolley and motor propulsion units. Write for data.

EUCLID

THE EUCLID CRANE & HOIST CO.
1365 Chardon Road • Cleveland 17, Ohio

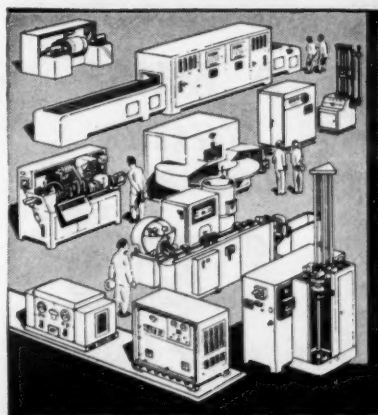
▲ For more details circle NED-403 F on enclosed inquiry slip ▲

SAW HOLES *Through Sheet or Plate!*

With a MARVEL No. 1 Hole Saw Kit, you can save time and labor by sawing holes from ¾" to 2½" diameter in sheet or plate, using an ordinary portable electric drill or a drill press. Saws to cut holes from 9/16" up to 6" dia. are available. MARVEL High-Speed-Edge Hole Saws are heavy duty tools, having a cutting edge of high speed steel welded to a tough alloy steel body to insure fast cutting and long service life. Arbors are heat treated, rugged, and practically indestructible. No. 1 Kit is complete with ¾", ⅞", 1⅛", 1⅜", 1½", 1¾", 2", 2¼", 2½" Saws with necessary Arbors. See your MARVEL Distributor, or write for Hole Saw Bulletin HS-475.

ARMSTRONG BLUM MFG. CO.
5700 W. Bloomingdale Avenue • Chicago 39, Illinois

▲ For more details circle NED-404 F on enclosed inquiry slip ▲



for HARDENING
BRAZING
SOLDERING
FORGING
ANNEALING
MELTING
SINTERING
WELDING
REFINING
SHRINK FITTING
CRYSTAL GROWING

THER-MONIC

Manufactures the most complete range of

INDUCTION HEATING EQUIPMENT

ELECTRONIC · LOW FREQUENCY
MOTOR GENERATOR

Contact our factory or your local IHC representative.

- Over 20 years of concentrated experience.
- Over 5,000 installations.
- Over 15,000 heating applications resolved in our customer service laboratories.
- This outstanding experience and know-how qualify us to prescribe the techniques and equipment best suited for your requirement.
- Write for New 56-page Catalog of exclusive features, facts and specifications.

INDUCTION HEATING CORP.
181 WYTHE AVE., BROOKLYN 11, N. Y.

▲ For more details circle NED-405 F on enclosed inquiry slip ▲

HOLZ

RUBBER CONVEYOR CLEATS

INSTALL IN A JIFFY FOR LOW-COST SERVICE!

BOLTA-FLITE

PIVOT-FLITE

A few minutes, a punch and a screwdriver—are all you need to install efficient rubber lift-cleats for your conveyor system. Install them without removing the belt! There's a style for your particular need, too!

HOLZ Bolta-Flite cleats bolt solidly to chain, fabric or metal systems, for long term heavy duty lifting power at minimum cost.

HOLZ Pivot-Flite, for medium and light duty, hinge on stainless steel pins—attach to belt with patented rubber fasteners to relieve stress when passing over small diameter pulleys: increase belt life!

HOLZ also offers Vulca-Flite cleats, permanently vulcanized to belt covers to your specification. Side flanges and special belt attachments available.

Whatever your product, there's a precision-made HOLZ rubber cleat to handle it with firm, yet gentle care. Get the full story: write for details today!

"If it's rubber we can make it!" ...serving industry for a quarter-century

HOLZ RUBBER COMPANY, INC.
1135 SOUTH SACRAMENTO STREET, LODI, CALIFORNIA

▲ For more details circle NED-406 F on enclosed inquiry slip ▲

TYGON®

means longer lasting protection against acid or alkali attack

If acid or alkali fumes make maintenance painting a never-ending headache, it's time to switch to Tygon. For more than twenty years, these famous specialty coatings have been protecting chemical plants everywhere. Resist acids, alkalies, alcohol, oils, greases. Apply by spray or brush. Air dries quickly.

164-G

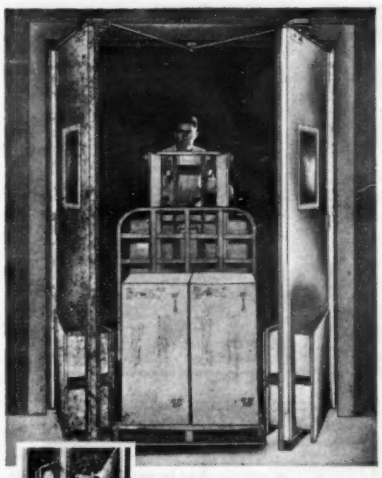
Write for this Manual

Bulletin 760 tells where and how to use Tygon.

Plastics & Synthetics Division **U. S. STONEWARE**

AKRON 9, OHIO

▲ For more details circle NED-407 F on enclosed inquiry slip ▲



Keeps Traffic *Moving* without wear, tear or repair

CLARK SHOCK ABSORBER DOOR

Special Formula Urethane-Cushioned Bumpers absorb shocks.

Save time and money with this lightweight, rigid Door that takes impact in stride. No strain at the flexible hinges, no warping, nothing to go out of whack. The **Bumper** takes the shock—not the **Door**.

Spring Retriever Motor closes the door tightly. Flexible Neoprene Seals prevent loss of heat or cold—keep air temperatures exactly where you want them.

The low-cost Shock Absorber Door may be your solution to slowdowns and bottlenecks. Complete in one easy-to-install unit. Write for prices, full information. Specify size of opening.

CLARK DOOR COMPANY, INC. (since 1878) — 511 Hunterdon St., Newark 8, N. J.

▲ For more details circle NED-408 F on enclosed inquiry slip ▲

WIRE ROPE That Fights Corrosion!

Macwhyte Stainless Steel wire rope is a preformed wire rope of chrome-nickel alloy steel. It will resist all manner of atmospheric corrosion, alkaline conditions, acids of an oxidizing nature (such as nitric), neutral brines, food substances, marine atmospheres, and temperatures harmful to ordinary carbon steel ropes.

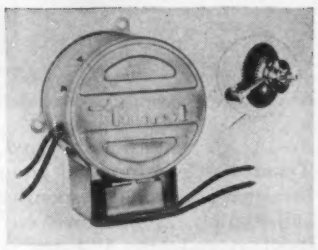
For more information ask for circular 4930. Macwhyte Wire Rope Company, Kenosha, Wisconsin, U.S.A.

204

MACWHYTE Wire Rope COMPANY

▲ For more details circle NED-409 F on enclosed inquiry slip ▲

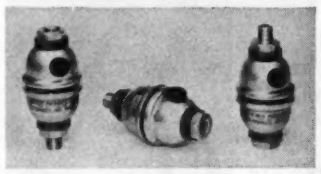
ELECTRIC CLUTCH & BRAKE for use on synchronous motors



Impulse operated from a remote position, this electrically actuated clutch and brake will start the output shaft of 40 and 80 oz-in. Hurst synchronous motors in 10 milliseconds or less and stop a 1-rpm shaft within 1/10 degree. The brake will hold the maximum load from reversing the gear train. Unidirection PC-SM Series motor pulls 40 oz-in. (1 rpm) and reversible PC-RSM Series pulls 80 oz-in. (1 rpm). Motors are supplied for 95/130 v, 60 cycles ac and draw 7 w. Standard models have a 3/16 x 1-in. flatted shaft. ● **Hurst Mfg. Corp.**, Box 326, Princeton, Ind.

▲ For more details circle NED-410 F on enclosed inquiry slip ▲

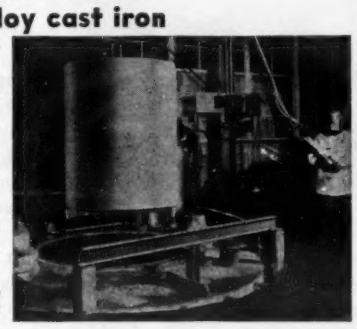
AIR LINE LUBRICATOR three types fit in the line



Intermittently operated air cylinders, motors, hand tools, and other air-operated devices are applications for the Inject-O-Mist pneumatic lubricator. It fits right in air line. Aluminum end bells overlap its short oil sight glass for protection. Standard horizontal Model TAR250FM is shown in the center, flanked by Model TVU for upward air discharge at left and Model TVD for downward discharge at right. All have brass male outlet and female inlet adapters in 1/8, 1/4, and 3/8-in. pipe thread sizes. ● **Carlson Products, Inc.**, 5309 N. 24th St., Omaha 10, Nebr.

▲ For more details circle NED-411 F on enclosed inquiry slip ▲

LARGE HARDENED ROLLS made of alloy cast iron



Bemcalloy A hardened cast iron bridle, blooper, and cluster rolls for steel mills, paper mills, and other industries are usable where nongalling, nonpickup, and temperature resistant qualities are essential. Made of alloy ductile iron, they have impact and wear resistance, as well as high modulus of elasticity. Rolls are quenched and tempered to desired hardness, though 75 Shore minimum hardness is normally supplied. Standard and custom sizes are available. ● **Badall Co.**, Dept. G, Hammond, Ind.

▲ For more details circle NED-412 F on enclosed inquiry slip ▲

MACWHYTE MONEL METAL WIRE ROPE RESISTS CORROSION

Macwhyte Monel Metal wire rope is a preformed wire rope of a high-nickel-content alloy steel. Monel Metal is more resistant to corrosive substances than any other commercial metal. Monel Metal wire rope will resist pickling solutions, salt water, fruit juices, food acids, soaps, and alkaline substances. It also resists such acids as sulfuric, hydrochloric, and hydrofluoric. It is ideal for use on hoists, conveyors, and controls exposed to highly corrosive conditions.

For more information, or specific recommendations for your application, write: Macwhyte Wire Rope Company, Kenosha, Wis., U. S. A. Ask for bulletin 49-30.

186

MACWHYTE Wire Rope COMPANY

▲ For more details circle NED-413 F on enclosed inquiry slip ▲

FREE 416-PAGE **PIC MASTER CATALOG #21**

Lists over 12,000 PRECISION INSTRUMENT PARTS and ASSOCIATED COMPONENTS. Available From STOCK!

Completely illustrated, with detailed drawings, specifications and prices.

GEARS • SHAFTS • COLLARS • CLUTCHES • BEARINGS • COUPLINGS • DIFFERENTIALS • SPEED REDUCERS and many other Precision Engineered Parts & Components.

Send for your FREE copy today.

PIC DESIGN CORP.

Subsidiary of **BENRUS WATCH COMPANY, Inc.**

477 Atlantic Ave., East Rockaway, L.I., N.Y.

▲ For more details circle NED-414 F on enclosed inquiry slip ▲

THE "PERFECT" SLING IS BRAIDED!

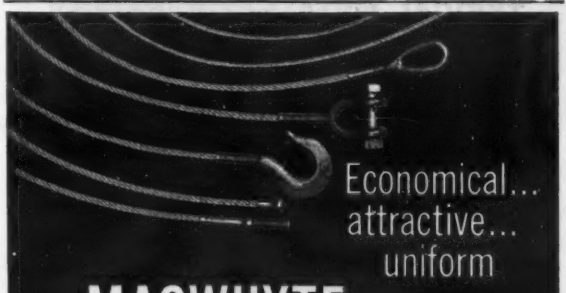
MACWHYTE ATLAS SLINGS

Macwhyte Atlas Slings are braided to provide a perfectly balanced sling — extra flexible, lightweight, kink-resistant, load hugging, easily handled. Available in a wide variety of types, sizes, and fittings. Ask for Sling Bulletin 5308R. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin, U.S.A.

214

MACWHYTE Wire Rope COMPANY

▲ For more details circle NED-415 F on enclosed inquiry slip ▲



Economical... attractive... uniform

MACWHYTE CABLE ASSEMBLIES

"Safe-Lock" wire rope assemblies are made in a wide range of sizes and types for machine parts, controls, and operating devices. They are fabricated to the exact size and length you need, with fittings on one or both ends — ready to use for safe, easy, quick, low-cost installation. Ask for catalog 5601. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin, U.S.A.

216

MACWHYTE Wire Rope COMPANY

▲ For more details circle NED-416 F on enclosed inquiry slip ▲

New "400 SERIES"

ZERO-MAX Stepless Variable Speed

Zero-Max "400 Series", a redesign of the complete line, gives you stepless variable speed control with a finger's touch. Over 250 fractional horsepower models and types (1/15 hp thru 3/4 hp) with or without motors, reverse or gearhead—output range from zero to 1200 rpm with 1800 rpm input. Zero-Max gives smooth, stable drive and constant torque from 2½ to 450 inch-pounds.

Change speeds instantly, running or not. Truly stepless—zero to maximum. Lever, screw, vernier or remote control. Lever control provides fast yet precise control. Instant reverse and neutral.

Send for free catalog on the new Zero-Max "400 Series" and name of your nearest representative.

THE ZERO-MAX® COMPANY

Subsidiary of REVCO, INC.

1910 Lyndale Ave. So., Minneapolis 5, Minn., FR 4-5520

▲ For more details circle NED-417 F on enclosed inquiry slip ▲

METALSET® A4

Epoxy Resin in Tubes

ADVANTAGES OF METALSET

Bonds and cements iron, steel, aluminum, ceramics, concrete. Tough for shock resistance. Packed in self-metering tubes. Also available in 2½, 5, 20 and 100 pound cans. • Water- and oil-proof • Chemically stable.

TYPICAL METALSET REPAIRS

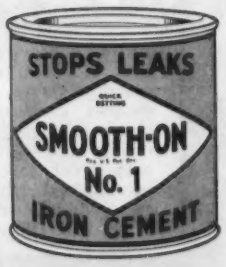
- Stops leaks in tanks, metal roofs, gutters, radiators, pipes
- Caulks conduits, flues, casements, skylights, all sheet metal
- Smooths and fills metal and wooden surfaces
- Machinable; can be drilled, tapped, sanded
- Makes all loose parts tight
- Anchors bolts and screws in wood, concrete, plaster

SMOOTH-ON IRON CEMENT

"SMOOTH-ON NO. 1"

Smooth-On is a dry powder, 70% iron. Mix it with water, it metalizes as it hardens. Resists high temperatures. Expands as it sets to fill a break or hole in any metal. The standard since 1895.

• Smooth-On is a metal filler. Metalset is a coating and bonding compound. Taken together, they meet any emergency.



METALSET

Made by SMOOTH-ON MANUFACTURING CO.

572 Communipaw Avenue, Jersey City 4, N. J.

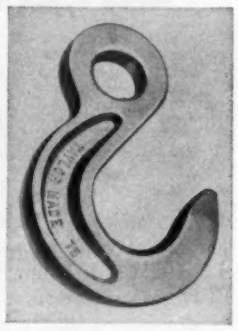
▲ For more details circle NED-418 F on enclosed inquiry slip ▲

DISC THERMOSTATS
have 2 to 6° F differentials

Semienclosed and hermetically sealed styles of Type MX bimetal disc thermostats are small in size, weigh about 5 grams, and resist high accelerations. Types with one terminal grounded and both terminals insulated are equally responsive to temperature changes. Differentials, as measured on the discs, are 2 to 6° F standard and 1 to 4° F special. Ratings of the snap-acting units depend on duty cycle and number of operations. They are noninductively rated at 3 amp for 25,000 operations at 30 v ac-dc and 115 v ac to 1 amp, same voltage, for 250,000 operations. Several mounting brackets are made. • **Stevens Mfg. Co.**, Box 1007, Mansfield, Ohio.

▲ For more details circle NED-419 F on enclosed inquiry slip ▲

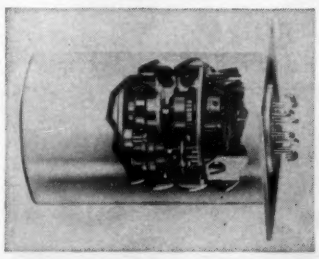
SLING HOOK
for 1¼ and 1⅜-in. alloy chain



I-beam design assures extra strength in the A-75 Tayco sling hook for use with 1¼ and 1⅜-in. diameter alloy chain. Drop-forged from alloy steel and heat treated, hook will not bend, even when load is applied at the point. Large eye accommodates shackle pins and wire rope thimbles. The hook throat is wide and deep. • **S. G. Taylor Chain Co.**, Box 509, Hammond, Ind.

▲ For more details circle NED-420 F on enclosed inquiry slip ▲

TIME DELAY TIMER
sealed unit has automatic reset



Factory-set time cycles from 1 sec to 60 hr are available in the Series D hermetically sealed time delay timer. Featuring automatic reset, it is designed for applications requiring extreme accuracy under severe ambient conditions. It qualifies under military specifications for shock and vibration, humidity, salt spray, high and low temperature, barometric pressure, and life test. Switch rating is 5 amp at 115 v, 60 cycles and switch contacts are single-pole double-throw. Available are 6 to 230-v, 25, 50, 60, or 400-cycles, and 6, 12, 24, 28, and 115-v dc ratings. Additional load switches can be specified. Price is $53.50 for a one-switch, 115-v, 60-cycle model. • **Industrial Timer Corp.**, 1407 McCarter Highway, Newark 4, N. J.

▲ For more details circle NED-421 F on enclosed inquiry slip ▲

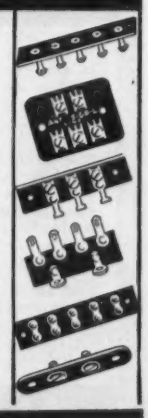
Send your specifications for prompt quotation

Hundreds of standard JONES TERMINAL PANELS

Complete Equipment FOR SPECIALS

JONES MEANS Proven QUALITY

Several pages of Jones Catalog No. 22 illustrate standard and special panels we are constantly producing. Latest special equipment enables us promptly to produce practically any panel required. Send print or description for prices without obligation. Hundreds of standard terminal strips also listed. Send for Catalog, with engineering drawings and data.



Jones

HOWARD B. JONES DIVISION

CINCH MANUFACTURING COMPANY

CHICAGO 24, ILLINOIS

DIVISION OF UNITED-CARR FASTENER CORP.

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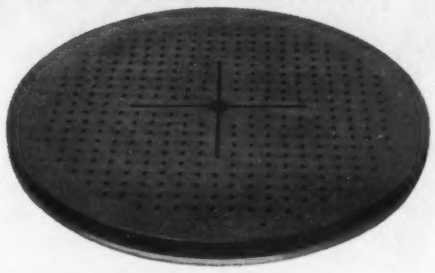
longer disc life, lower grinding costs



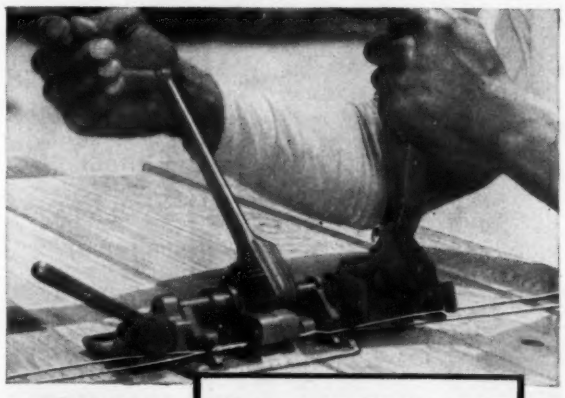
Gardner Abrasive Discs

... made to meet your specifications

Send for latest general abrasive catalog.

GARDNER abrasive discs

GARDNER MACHINE COMPANY
460 Gardner St.
Beloit, Wisconsin



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Save 50-80% on strapping

Twice as much for the money . . . Oval steel strapping gives you high tensile strength . . . a greater lineal feet per pound yield. Countless users have cut their strapping costs 50 to 80%. *Easier to use.* Just *one* tool to tension, twist and cut the strapping. You save time, manpower and equipment investment. *Full details.* Circle the reader service card, or write:

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Answers to hundreds of design problems in fastening!

The new Simmons Fastener Catalog #1257 has all the facts you need to know about the famous SPRING-LOCK, LINK-LOCK, QUICK-LOCK, ROTO-LOCK, DUAL-LOCK, and HINGE-LOCK.

44 pages of important data with complete specifications, engineering drawings, installation details, numerous applications and instructions for ordering.

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SIMMONS FASTENERS

Quick-Lock · Spring-Lock · Roto-Lock · Link-Lock · Dual-Lock · Hinge-Lock

SIMMONS FASTENER CORPORATION

1793 North Broadway, Albany 1, N. Y.

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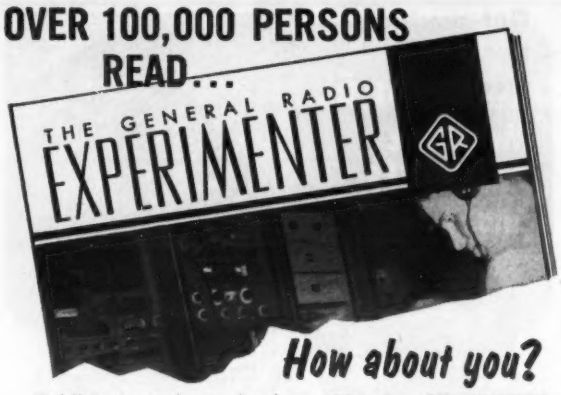

How about you?

Published continuously since 1926, the GR EXPERIMENTER is a monthly technical magazine devoted to the description of the latest techniques in electronic instrumentation and measurements.

It is read throughout the world. It is sent *without charge* to scientists, engineers and technicians interested in the latest in communication-frequency techniques and equipment.

To be placed on the list, please supply the following information: Name, Business Address, Your Position in the Organization. Send to

The General Radio EXPERIMENTER

GENERAL RADIO COMPANY
25 Baker Avenue
WEST CONCORD, MASSACHUSETTS

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Only
TONG TEST
measures both
AC and DC

Says:
A. P. Drda,
Master Electrician
Midland-Ross Corp.

Balance loads, check welding current, avoid shutdowns, reduce repair costs. TONG TEST AMMETERS measure **both** alternating and direct current. No electrical connections required, simply press trigger and snap tongs around electrical conductor for instant readings. Interchangeable ranges up to 1000 amperes; impossible to read the wrong scale.

Rugged and dependable, safe and accurate. No coils or wires to burn out. Eight types of TONG TEST available for conductors up to 3⅞" diameter or bus bars up to 4½" x ½".

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COLUMBIA
COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO

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FASTER HANDLING
for all small parts

Rapistan • PRESS-VEYORS

Call on Rapistan for the most efficient equipment to handle any type of mass-produced machine parts, forgings, stampings, light or heavy, any shape, any size, any temperature. Press-Veyors work at steep inclines in close quarters, easily portable, thoroughly dependable. Wide range of Press-Veyor sizes and belt materials. Ideal for press room work and many special problem applications. Magnetic models also available.

Write for illustrated reports of tough handling jobs solved by Rapistan Press-Veyors.

Rapistan conveying equipment

The RAPIDS-STANDARD CO., Inc.
744 Rapistan Building, Grand Rapids 2, Michigan

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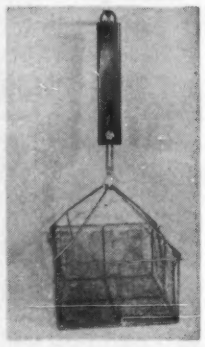
RECIPROCATING AGITATOR
speeds basket cleaning operations



Usable for agitating, cleaning, degreasing, and dipping of loose parts in a wire basket, this improved pneumatic reciprocating agitator operates on shop compressed air. Loads weighing up to 150 lb can be agitated at any desired stroke from 1 to 6 in., with speeds varying on the up and down stroke from one to 12 strokes per minute. Action is easily controlled. • **Dayton Rogers Mfg. Co.,** 2824 13th Ave. S., Minneapolis 7, Minn.

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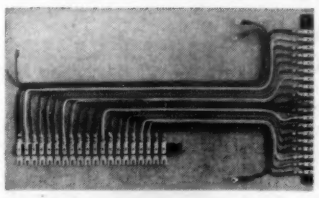
FLAT RIBBON CABLE
in No. 10 to 30 wire gage sizes



Flexibility, ease of handling, full visibility of color coding, control of inter-conductor capacitance, and uniformity in length of cables are features of Spectra-Strip flat bonded cable. Improved signal-to-noise ratio is obtainable by grounding the wire on one or both sides of the involved conductor. Color coding of vinyl insulation of individual wires is possible with solid colors or stripes. Sizes from 10 to 30 AWG are available, as are shielded wires, coaxial leads, or thermocouple leads. • **Spectra-Strip Wire & Cable Corp.,** Box 415, Garden Grove, Calif.

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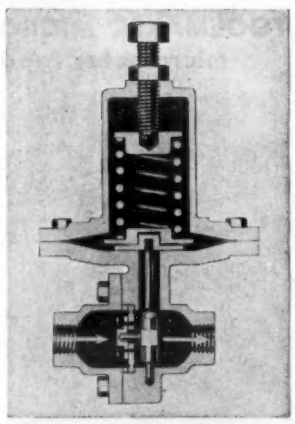
PRESSURE REGULATORS
for steam, water, oil, gas, chemicals



Sliding gate seats of the No. 760 pressure regulators give tight shutoff and are self-cleaning and self-lapping in operation. Valve body is Type 316 stainless steel and all trim is stainless steel. Regulators are usable for steam, water, oil, gas, and corrosive chemicals up to 300 psi and 600° F. Pressure drops to 250 psi can be handled. Special seats for capacities of ¼, ⅜, ½, and ¾-in. valves are available for the 1-in. body, and ¼ and ⅜-in. seats are offered for the ½-in. body. Prices for the ½, ¾, 1, 1½, and 2-in. models are $240, $256, $260, $344, and $440, respectively. • **OPW-Jordan Corp.,** 6013 Wiehe Rd., Cincinnati 13, Ohio.

▲ For more details circle **NED-430 F** on enclosed inquiry slip ▲

▲ For more details circle **NED-431 F** on enclosed inquiry slip ▲

NEW Polarizing Microscope... the AO POLARSTAR

Presents a building-block concept of design that gives you an unequalled choice in selecting your polarizing microscope and equipment. Various combinations of bodies, stages, analyzers, nosepieces, substage equipment and bases can be selected to provide the exact model you want.

AO Polarstar features: Interchangeable, *reversible bodies* with *Bertrand Lens* • *Polaroid Analyzer*, fixed swing-in or rotatable • *Focusable Stage* with coarse and fine adjustments • *Polaroid Polarizer* in Abbe condenser • Swing-in *Auxiliary Condenser* • *Strain-Free Objectives, Wide Field Eyepieces* and all essential air-glass surfaces are coated. Complete information in Polarstar Brochure No. SB2300. Write for your copy today.

American Optical Company
INSTRUMENT DIVISION
BUFFALO 15, NEW YORK

IN CANADA write—American Optical Company Canada Ltd., Box 40, Terminal A, Toronto, Ontario

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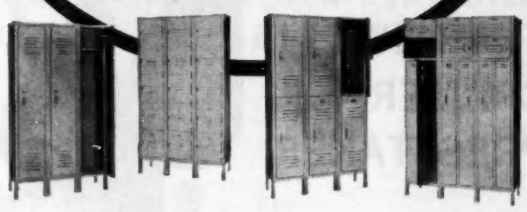
NEW FROM PENCO
20-PAGE LOCKER CATALOG



A complete data file on the finest locker line in the industry. Features over 20 different locker styles—over 1000 sizes.

For your free copy, write direct to:

ALAN WOOD STEEL COMPANY
PENCO DIVISION
406-L North Brower Avenue, Oaks, Pennsylvania

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Rapistan APC LIVE ROLLER CONVEYOR

Rollers on the Rapistan APC (adjustable pressure) conveyor accumulate materials without line pressure build-up, carry loads up to 100 lbs. per foot. Carton damage is eliminated. Separates and spaces articles at start of closely packed line; needs no special sections or parts for transfers on or off APC line. Roller widths up to 54". Cut cost of warehousing, processing, shipping operations and speed movement of goods with Rapistan APC Live Roller Conveyor.

Write for new Bulletin showing details and applications of Rapistan APC Live Roller.

Rapistan conveying equipment

The RAPIDS-STANDARD CO., Inc.
744 Rapistan Building, Grand Rapids 2, Michigan

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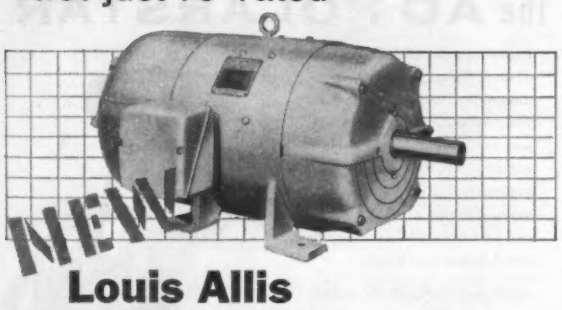
Completely redesigned
—not just re-rated



Louis Allis FLEXITORQ® D-C Motors

The Louis Allis Flexitorq is a brand-new high-performance d-c motor. It offers you improved commutation; exceptionally low brush wear; 400% short-time and 15% continuous overload capacity; and unmatched field flexibility.

Improved armature and brush design provides 40% faster acceleration, plus much better deceleration, reversing, and speed changing. Class B insulation rates the new d-c motors at 60°C rise for continuous operation—and resists heat, moisture, acids, alkalies, etc.

Check the Flexitorq. It's the most improved d-c motor for constant and adjustable speed applications. Sizes from 1 to 400 hp, with choice of enclosures and modifications. Write for Bulletins 3150 and 3200 to The Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wisconsin.

LOUIS ALLIS

DC-218

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SAFETY GRATING PLATFORMS for grease and ice coated gangways

Safe footing on grease or ice coated gangways is assured with Protectoway safety grating platform sections. Available in a wide selection of sizes welded to supporting rails, sections minimize the danger of walking up and down steep, slippery inclines. Basic flooring assembly is resistance welded by a method that eliminates use of bearing bars. • Bustin Steel Products, Inc., Randolph Township, Dover, N. J.

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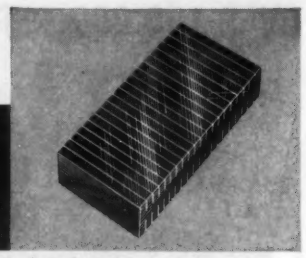
Get precision that gives precision . . .

Magnetic PARALLELS and V-BLOCKS



PARALLELS . . . ground singly or in pairs

Number	Dimensions	Wt. Each	Price Each	Price Pair
M-1	⅜ x 1½ x 3	1⅛ lbs.	$11.00	$20.00
M-2	⅜ x 1½ x 6	2¼ lbs.	17.00	30.00
M-11	⅞ x 2 x 4	2½ lbs.	17.50	31.00
M-153	1 x 1½ x 3	1½ lbs.	13.00	23.00
M-22	1 x 2 x 2	1½ lbs.	12.00	21.00
M-23	1 x 2 x 3	2 lbs.	15.00	27.00
M-3	1 x 2 x 4	2¾ lbs.	18.00	32.00
M-4	1 x 2 x 6	4 lbs.	19.00	34.00
M-88	1 x 2 x 8	5¾ lbs.	22.00	39.00
M-255	1 x 2½ x 5	3½ lbs.	20.00	36.00
M-34	1 x 3 x 4	3¼ lbs.	20.00	36.00
M-5	1 x 3 x 6	6 lbs.	26.00	46.00
M-38	1 x 3 x 8	7½ lbs.	37.00	66.00
M-312	1 x 3 x 12	12 lbs.	52.00	93.00
M-356	1 x 3½ x 6	6¾ lbs.	32.00	57.00
M-6	1 x 4 x 4	5½ lbs.	22.00	39.00
M-46	1 x 4 x 6	8 lbs.	37.00	66.00
M-48	1 x 4 x 8	9⅛ lbs.	45.00	81.00
M-412	1 x 4 x 12	16 lbs.	73.00	131.00
M-510	1 x 5 x 10	18 lbs.	77.00	138.00
M-610	1 x 6 x 10	20 lbs.	79.00	142.00
M-612	1 x 6 x 12	24 lbs.	100.00	180.00
M-7	1 x 8 x 8	22 lbs.	86.00	154.00
M-8	1⅛ x 1⅛ x 4½	3½ lbs.	19.00	34.00
M-9	1¾ x 2 x 3	1½ lbs.	17.00	30.00
M-248	2 x 4 x 8	18 lbs.	86.00	154.00

V-BLOCKS . . . 90° V and 45° from centerline

Size No.	Height, Inches	Width, Inches	Length, Inches	Price Each	Price Pair
MV-1	1⅜	2½	2½	$38.00	$68.00
MV-2	1⅜	2½	4	58.00	102.00
MV-3	2	4	6	96.00	172.00
MV-4	1⅜	2½	6	72.00	129.00

Order now for prompt delivery !

Hanchett MAGNA-LOCK, CORP BIG RAPIDS, MICHIGAN

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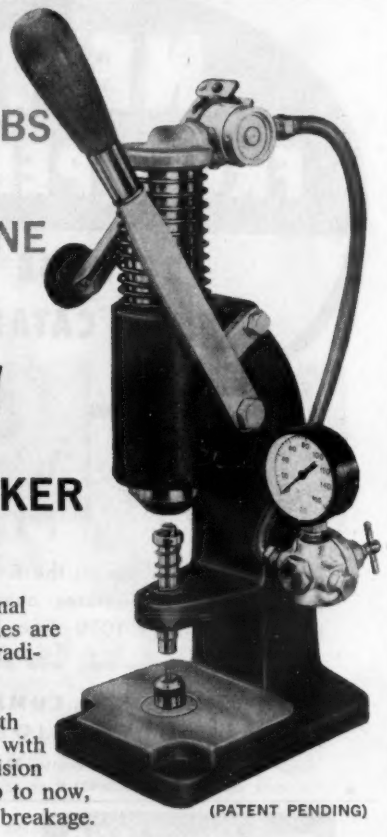
NOW 2 BIG JOBS ON 1 MACHINE

. . . without tool change

THE NEW CRAMER PRESSTAKER



Press-fitting and final staking of assemblies are *both* done by this radically new production tool . . . at rates impossible with separate machines, with much greater precision than obtainable up to now, and without parts breakage.

(PATENT PENDING)

- Sub-assembly inventories can be reduced or entirely eliminated, because of far faster production from primary components.
- Standard tooling, completely interchangeable, meets the needs of an enormous range of jobs.
- Set-up time for combined operations is less than 20 seconds, and the operator herself can easily do it.
- Brittle phenolics do not break in staking, because the staking blow is exactly controlled and the stake is properly shaped.
- Accuracy of both hold-down and staking punch is held within 1/1000, by precision machining and unitized construction.
- Staking blow is pure impact . . . air powered, uniform, and without recoil.
- Operator safety is complete: one hand is on the hold-down lever, the other on the staker release.
- Deep-throat model takes printed circuit boards 20 inches wide.

WRITE TODAY FOR BULLETIN TELLING HOW IT'S DONE

Find out how *you* can do jobs you never thought possible . . . swap assembly problems for profits . . . and give your production line a new boost in output and morale.

MACHINE TOOL DIVISION
CRAMER CONTROLS CORPORATION
CENTERBROOK, CONNECTICUT

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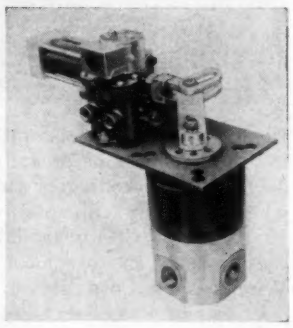
AIR-HYDRAULIC VALVES rated up to 10,000 psi



Hydraulic oil or water ratings of 3000, 6000, and 10,000 psi and air ratings of 2000, 4000, and 10,000 psi are offered in cylinder-operated Shear - Seal valves. Available in 4-way, 3-way, and shut-off flow patterns, valves have port sizes from 1/4 through 1½ NPT. Cushioned or noncushioned cylinders for 80 to 250-psi air and for 500-psi liquid pressures are standard. • Barksdale Valves, 5125 Alcoa Ave., Los Angeles 58, Calif.

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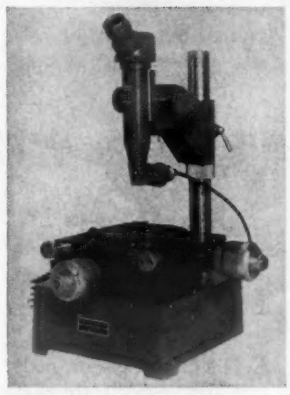
TOOLMAKER MICROSCOPE micrometer reads to 0.0001 in.



Tilt of the tube to the helix angle has been dispensed with in this Simplex toolmaker microscope. Instrument is intended for coordinate measurements predominantly, rather than for thread checking. The 360-degree rotary stage permits measurements in polar coordinates. Total range is 2 x 2 in. with direct micrometer readings in 0.0001 in. A choice of interchangeable oculars is available. • Opto-Metric Tools, Inc., 137 Varick St., New York 13, N. Y.

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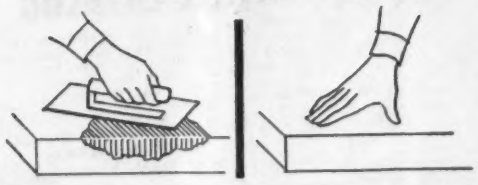
NEW, QUICK, SURE WAY TO PATCH CONCRETE FLOORS



With new Thoropatch, you'll save time and money and get a solid, durable, renewed floor that doesn't look patched. No other cement patch can top these benefits to you:

- Dries to natural concrete color.
- No crusting—curing is complete throughout.
- Highest compressive strength in its field.
- Excellent resistance to most industrial acids.
- Smooth, easy, non-stick troweling.
- Tough feather edges.
- Self curing—fast curing

Don't accept inferior patching materials. If you do the job right the first time, you won't have to do it over. Standard Dry Wall Products Inc. has been a leader in masonry maintenance since 1912. Write for free Thoropatch brochure.

THOROPATCH
Standard Dry Wall Products Inc.
Box X-11, New Eagle, Pennsylvania

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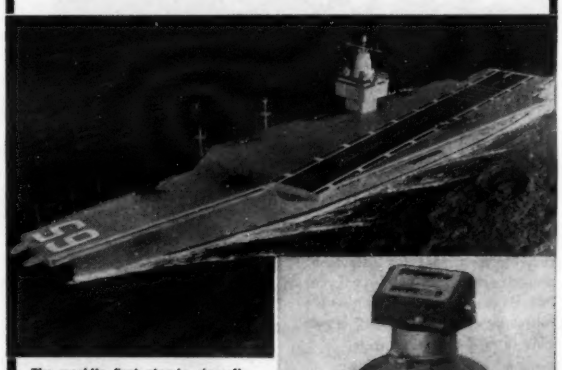
NIAGARA METERS

Meet the Exacting Requirements of Nuclear-Powered Ships



The world's first atomic aircraft carrier Enterprise. This 1100 foot Navy warship is powered by eight nuclear reactors.

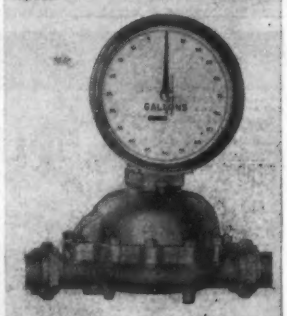
Niagara Stainless Steel Meter. The same as used on the Enterprise. Used industrially for accurately measuring corrosive liquids.

STANDARD NIAGARA METERS MEASURE DEMINERALIZED COOLING WATER WITHOUT DANGER OF CONTAMINATION

To reduce radioactive contamination in U.S. nuclear-powered ships, the cooling water for the nuclear reactor is demineralized. After demineralizing, the pure water must be measured. The meter selected for this operation must not recontaminate the water and make it a potential carrier of radioactivity.

Niagara Chemical Meters with stainless steel casings were selected. These are standard meters, the same as offered to the chemical industry for metering corrosive liquids. They met the critical Navy requirements without change, to meter and maintain the purity of the cooling water.

The complete line of Niagara Meters is described and illustrated in Bulletin 43. Send for your free copy.



Niagara Electricontact Meter. Brings automation to liquid measuring. Controls, activates, signals. Reduces costs.

Niagara High Pressure Meter. Extra heavy, for measuring liquids at high pressure.

BUFFALO METER COMPANY
INCORPORATED
Subsidiary of American Meter Company, Inc.
2903 Main Street • • Buffalo 14, New York

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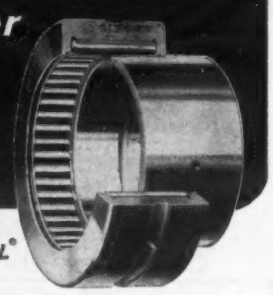
For heavier loads in smaller space



Use McGill MULTIROL® full type needle roller bearings

MULTIROL SE series bearing construction provides a full complement of small diameter rollers in a hardened and ground outer race. This packs maximum load capacity in minimum radial space.

Precision ground rollers and retaining end shoulders built integral with the outer ring eliminate loose or welded-in end washers; assure ease of assembly, precision performance and longer life. Simplified grease lubrication reduces maintenance.

For greater radial space savings on a larger hardened and ground shaft, the outer ring and roller assembly may be used without an inner.

Write for helpful Bearing Handbook No. H-54-B

engineered electrical products McGILL® precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARISO, INDIANA

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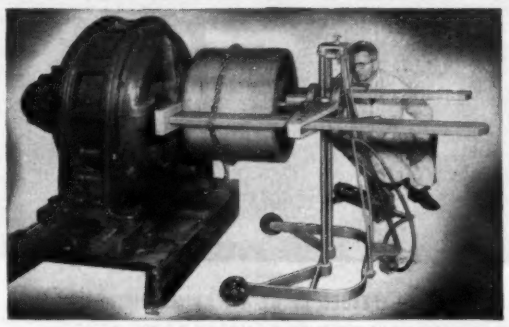
THE QUICK, EASY WAY TO REMOVE AN OBJECT FROM A SHAFT!



This Powerful, Hydraulic

PULLEY PULLER

For Removing Pulleys, Wheels, Gears, Couplings, Sheaves, etc.

One man can do it in minutes — even if objects are stuck fast. No crowbars, sledges, or torches. No damage to equipment. Puller is adjustable — easy to move — rugged. Hundreds being used in industry.

- 5-ton size on wheels $122.00
- 20-ton size on wheels $368.00
- 50-ton size on wheels $830.00

F.O.B. Factory, New Quicklink chain and set of ten ram adaptors at slight additional cost.

Write for complete information - Catalog E

INDUSTRIAL ENGINEERING EQUIPMENT CO.

122-124 E. 4th St. Davenport, Iowa

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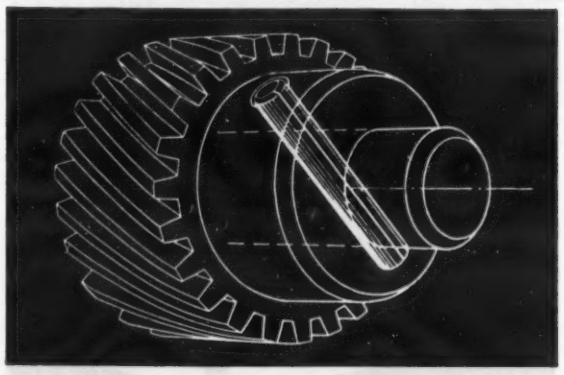


FOR VIBRATION-PROOF PRECISION PINNING WITHOUT HOLE REAMING...TRY ROLLPIN

Rollpin® is a slotted chamfered cylindrical spring pin which can eliminate hole reaming operations and precision tolerances required for taper pin assembly. Oversized in relation to standard fractional drill dimensions, it drives easily into standard production-drilled holes. Compressive spring action locks it securely into place, yet it can easily be drifted out and reused.

As a rivet, dowel, hinge pin, cotter pin or a stop pin, Rollpin versatility and economy is unmatched.

For more details write to Dept. R60-637, Elastic Stop Nut Corp., 2330 Vauxhall Road, Union, New Jersey.

ESNA ELASTIC STOP NUT CORPORATION OF AMERICA

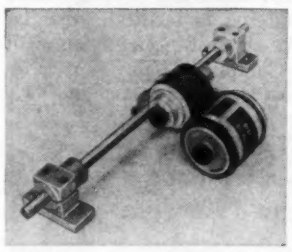
▲ For more details circle NED-445 F on enclosed inquiry slip ▲

TOOL & FEED CALCULATORS contain carbide and machining data

Machinability ratings, grade of carbide to be used, and surface speed for various ranges of feed and depth of cut are furnished by the Carb-A-Guide, one of two slide calculators. It also provides hints on how to counter effects of edge wear and cratering. Second multipurpose computer slide chart incorporates data on hardness conversion, speed conversion, milling feed rates, horsepower, and other information compiled to speed machining operations. Set of two pocket-size calculators is offered free with a plastic shirt or coat pocket protector-holder. • **Adamas Carbide Corp.**, Kenilworth, N. J.

▲ For more details circle NED-446 F on enclosed inquiry slip ▲

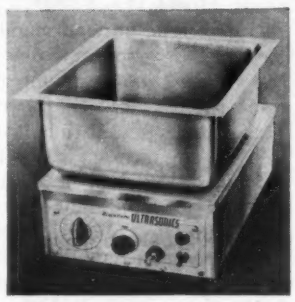
ROLLER CODER imprints many types of containers



Versatile two-roller coding unit for use on packaging machine or delivery conveyor will imprint on plastic, cardboard, fiber, glass, metal, and paper containers or wrappers. High speed Model 1019 coder has a 10-in. printing wheel circumference with a 2-in. face width. Extremely porous ink roller is easily removed and can be recharged with ink while unit is operating. Print roller can be fitted with either rubber or metal type and is easily adjusted. Right or left hand operation is quickly set up. • **Bell-Mark Corp.**, 18 Ropes Place, Newark, N. J.

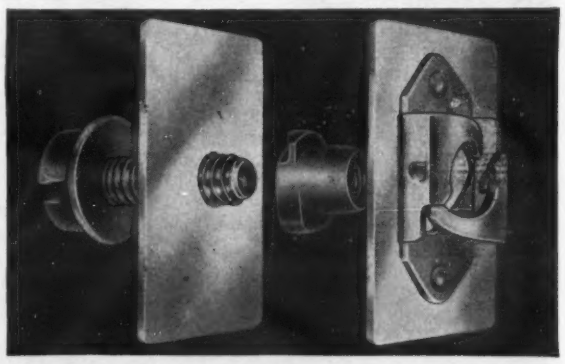
▲ For more details circle NED-447 F on enclosed inquiry slip ▲

ULTRASONIC CLEANER with 1 or 2-gal capacity tanks



Small volume cleaning of instruments, parts, and small assemblies as well as laboratory blending of liquids, dissolving of salts, and accelerating reactions are typical applications for Model SG-2 ultrasonic cleaner. Offered with either a 1 or 2-gal tank, unit features a 20-kc magnetostrictive transducer which uniformly distributes the high intensity sound energy. Air cooled transducer will not overheat low temperature solutions. Heated solutions to 400° F can also be used without damage. • **Blackstone Corp.**, 1111 Allen St., Jamestown 6, N. Y.

▲ For more details circle NED-448 F on enclosed inquiry slip ▲



NEW! ESNA QUICK RELEASE NUT

Just a quarter turn locks and unlocks ESNA's unusually versatile self-locking panel fastener.

The simple two piece design comprises a retainer basket and special self-locking nut which is installed on any standard ¼" bolt (*you* supply) to provide a practical stud that can be locked-unlocked countless times. Use of the stop nut permits infinite grip adjustments on the bolt, eliminating multiple length studs; original setting can be easily re-adjusted to compensate for panel loosening due to wear. Perfect for applications where quick access is necessary for normal operating or maintenance requirements.

For details write Dept. S48-637 Elastic Stop Nut Corporation, 2330 Vauxhall Road, Union, New Jersey.

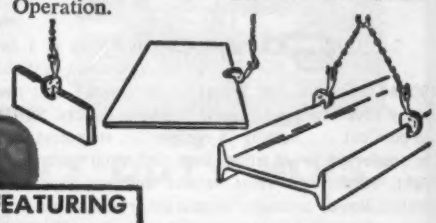
ESNA ELASTIC STOP NUT CORPORATION OF AMERICA

▲ For more details circle NED-449 F on enclosed inquiry slip ▲

YOUR BEST MOVE IS TO MOVE WITH MERRILL MATERIAL HANDLING DEVICES FOR THE MOST IN Safety and Economy

6 SIZES

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.



FEATURING THIS MONTH...

Over 25 Material Handling Devices described in our catalog C-2. Ask for a copy.

LARGE OPENING "G" CLAMP

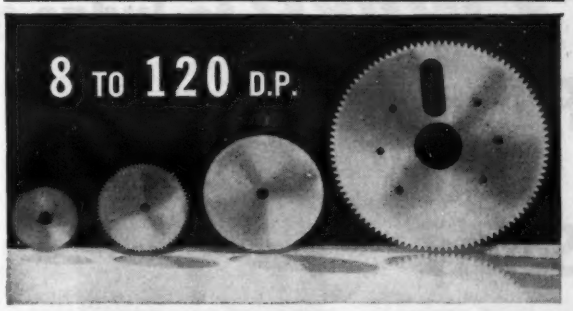
MERRILL BROTHERS

Producers of Drop and Press Forgings

56-13 Arnold Ave., Maspeth, N. Y.

1-60A

▲ For more details circle NED-450 F on enclosed inquiry slip ▲



LONG LIST OF STOCK GEAR DIES OFFERS YOU BIG SAVINGS!

ACCURATE STAMPED GEARS by *WINZELER* are BIG savers of time and money. Single stampings are laminated to wide faces at savings up to 60%! Further economies are made possible by a BIG range of *stock* Dies. Modern new plant, methods, and equipment now greatly increase production speed, efficiency and *economy!* Send blue prints. Tell us about your needs today. No obligation.

SEND FOR...

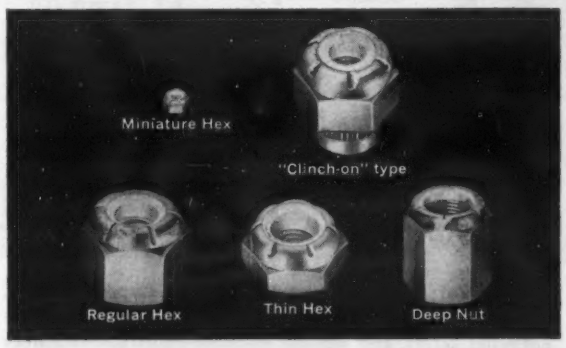
New list of WINZELER-made stock Gear Dies. Ask for it on company letterhead, *please!*

WINZELER Stamped Gears

WINZELER MANUFACTURING & TOOL CO.

7355 W. WILSON AVENUE • CHICAGO 31, ILLINOIS

▲ For more details circle NED-451 F on enclosed inquiry slip ▲



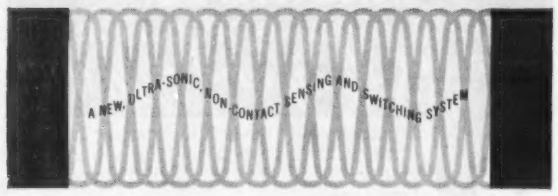
THERE'S A STANDARD ELASTIC STOP NUT FOR EVERY BOLTED ASSEMBLY

Whether you need a self-locking fastener that measures 1/10 inch across the flat—or a husky hex nut that can stand up under the heaviest vibration—look to ESNA.

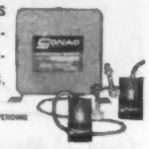
No amount of vibration, shock, or impact can make an Elastic Stop® nut break loose. Exclusive nylon locking insert grips like a vise—yet never deforms bolt threads and may be re-used again and again. Try it for prestressed or positioned settings—it stays put anywhere on the bolt you set it. For details write Dept. S49-637, Elastic Stop Nut Corporation, 2330 Vauxhall Road, Union, New Jersey.

ESNA ELASTIC STOP NUT CORPORATION OF AMERICA

▲ For more details circle NED-452 F on enclosed inquiry slip ▲



SONAC Here truly is a new dimension in automated controls! Delavan's new SONAC uses ultra-sonic energy for its "beam". This new concept offers many advantages over available sensing devices. SONAC has no lamps to burn out . . . nothing to replace . . . eliminates down time. SONAC is unaffected by vibration, dust, industrial contamination or ambient light. SONAC will sense ferrous and non ferrous metals, liquids or solids, transparent or opaque materials yet requires less power than an ordinary flashlight. These are just a few of SONAC's advantages.



PATENTS PENDING

Send for a complete descriptive booklet. There's no cost or obligation.

DELAVAN Manufacturing Company

WEST DES MOINES, IOWA

▲ For more details circle NED-453 F on enclosed inquiry slip ▲

7 WAYS to Judge a Flammable Liquid Safety Can...

1. LEAKPROOF CONSTRUCTION
Seams are lap-joined and electrically welded into durable "one-piece" container capable of standing up to rough service.

2. "SHOCK-RIM" BOTTOM
Can bottom is raised ⅝" up into can body to provide protective rim around base of can.

3. DOUBLE WALL FLAME ARRESTERS
Provide a durable double barrier. If inner wall is damaged, outer wall provides protection until unit is replaced.

4. MECHANICALLY JOINED FILL SPOUT
Spout is "clinched" and soldered to top section of the can to withstand strain of repeated opening and closing.

5. LEAKPROOF SPOUT SEAL
Spring operated cap has ball and socket joint assembly to assure uniform, self-adjusting, liquid-tight seal of special leak-resistant gasket.

6. QUICK-ACTING DISPENSING VALVE
Convenient hand operation gives fast, positive control while pouring. Instantly shuts when pressure is released.

7. SHOCK GUARD CARRYING HANDLE
Handle design shields dispensing lever against accidental opening from shocks or bumps.

Protectoseal Safety Dispensing Cans incorporate these, and many more design and operating features to provide optimum safety and service. Because Protectoseal Safety Cans are built better to serve longer, they are your best buy.

When you are considering the purchase or specification of Flammable Liquid Safety Cans, investigate the "hidden values" you get in Protectoseal Products. Compare them, point by point, with any other can and you will see why they are the quality standard of the industry.

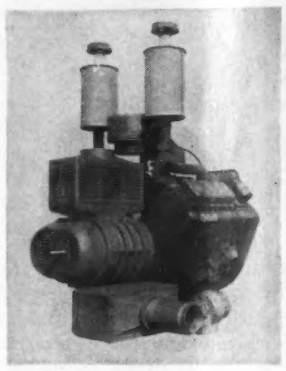
Protectoseal Safety and Storage Cans are made in a wide range of sizes and types. They are stocked in strategically located Protectoseal Warehouses and Service Centers for quick delivery.

Write for the new Catalog of Protectoseal Equipment for the safe storage, handling, and use of flammables.

THE PROTECTOSEAL COMPANY
1964 SOUTH WESTERN AVENUE • CHICAGO 8, ILLINOIS

▲ For more details circle NED-454 F on enclosed inquiry slip ▲

ROTARY BLOWERS offered in six sizes which produce from 200 to 2200 cfm

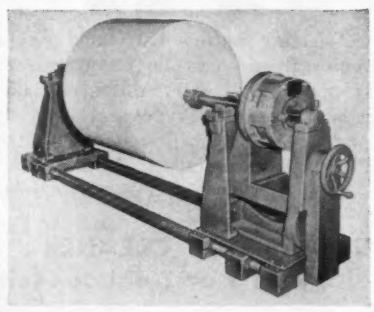


Six sizes comprising Series 88 rotary positive blowers produce 200 to 2200 cfm at pressures up to 12 psi continuously and 15 psi intermittently. Standard or gearhead units have a wide selection of ratios up to 3 to 1. Locked bearings on each of two impeller shafts enable machines to be directly connected to electric motors or V-belt driven.

Two - lobe design provides large volume of air per given case size, suiting these units for aircraft and missile ground support equipment. They are also applicable to bulk truck operations involving pneumatic unloading equipment and can employ either power take-off, or direct engine drive. Horizontal or vertical mounting arrangements are possible, and a kit is offered to facilitate installation on trucks for power take-off operation. • **Sutorbilt Corp.**, 2966 E. Victoria St., Compton, Calif.

▲ For more details circle NED-455 F on enclosed inquiry slip ▲

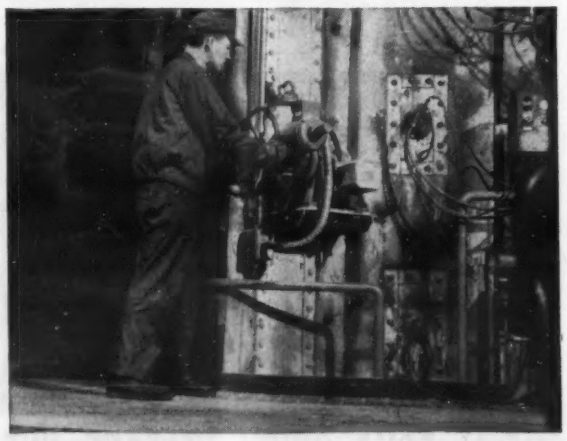
UNWIND-REWIND STANDS handle up to 72-in. rolls of stock at speeds to 1500 fpm



Automatic, semi-automatic, and manual braking types of unwind and rewind stands, including turret, heavy duty, and light duty models, are available to meet web processor's needs. Model TO-24 turret type unwind stand has a Flying Splice action that instantly spices a new roll of stock onto a moving web without stopping or slowing down the process. Model TO-24R turret type rewind stand has Flying Knife action that instantly transfers the moving web to a new core without interrupting the process.

Heavy duty shaft or shaftless units accommodate 48, 60, and 72-in. diameter rolls and operate at speeds over 1500 fpm. They feature air-operated water-cooled brakes and adjustable arms for various web widths. Constant tension and web guide controls are available. Light duty unwinds have manual braking, accurate side lay, and optional web guide. • **Stanford Engineering Co.**, Salem, Ill.

▲ For more details circle NED-456 F on enclosed inquiry slip ▲



Sure footing . . .

A.W. ALGRIP abrasive flooring

Heavy oil occasionally spills on this platform at the Schuylkill Station of the Philadelphia Electric Company, but A. W. ALGRIP helps prevent accidents by providing assured footing.

A. W. ALGRIP is produced by Alan Wood Steel Company by a patented process in which an abrasive is embedded to a controlled depth. It becomes an integral part of a tough steel plate.

A. W. ALGRIP can be used as independent flooring or as flooring overlay. Approved for Safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Also manufacturer of A. W. Super Diamond Rolled Steel Floor Plate.

▲ For more details circle NED-457 F on enclosed inquiry slip ▲

3 WAYS YOU SAVE TIME with this New, Low-Cost AIR REEL

NEW, low-cost GRACO Air Hose Reel has three-way utility to save time and effort in using air-powered hand tools! Runs free . . . stops at 9 in. intervals . . . or adjusts to balance the tool. Only 12 in. high, 10 in. deep, 5 in. wide . . . it's a money-saving midget! Bolts to wall, post or ceiling . . . includes 15 ft., ¼ in. ID air hose. Gives you more *working* freedom . . . *investigate today!*

RUNS FREE! Allows free-wheeling work within 15 ft. radius. Spring pick-up gives effortless hose retraction.

STOPS! Simple touch of a lever activates ratchet to provide automatic latch stops every 9 ins. . . . 19 stops in all.

BALANCES! Spring tension on hose pickup easily adjusts to counter-balance weight of the tool. Saves muscle power!

See your local supplier or write today for details!

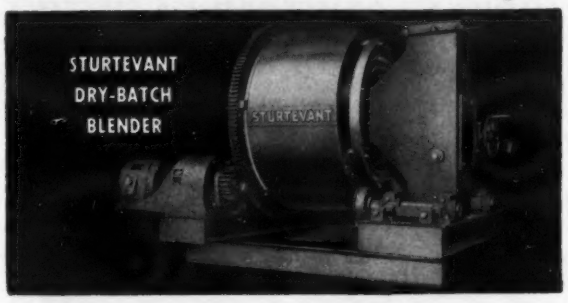
GRACO ENGINEERS AND MANUFACTURERS

GRAY COMPANY, INC. • 67 Graco Square • Minneapolis 13, Minn.

(See Phone Book Yellow Pages, Spraying, for Local Graco Suppliers)

▲ For more details circle NED-458 F on enclosed inquiry slip ▲

BLENDING COSTS cut 2 ways!



1. PRODUCTION SPEEDED UP BY 4-WAY MIXING

2. SHUT-DOWNS SHORTENED BY "OPEN-DOOR" DESIGN

Batches from 500 to 40,000 pounds are completely blended regardless of varying weights, densities or fineness of different ingredients. No dust loss!

Four different vertical and lateral mixing actions do the job in minimum time. Single lever control of single gate speeds loading and discharging.

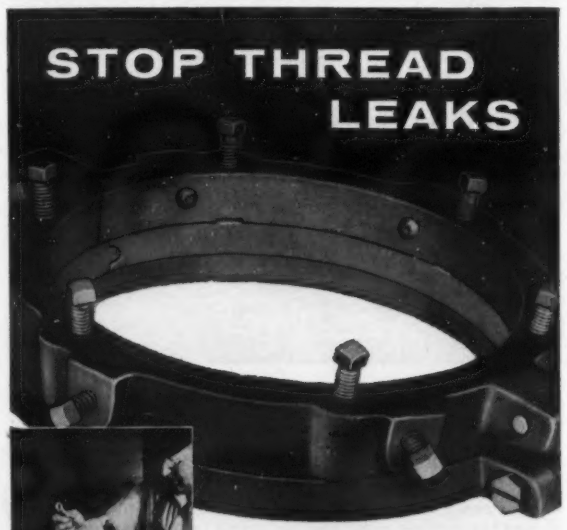
"Open-Door" accessibility for quick, easy cleaning and maintenance *plus* 75-year-tested rugged construction add up to more output per machine-year.

Write for Bulletins on Sturtevant Batch Blenders and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to lower operating costs over more years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

▲ For more details circle NED-459 F on enclosed inquiry slip ▲

STOP THREAD LEAKS



SKINNER-SEAL PIPE JOINT CLAMP stops leaks at joints where pipe is screwed into fitting. Any temperature—any pressure up to 2,000 pounds. Saves the cost of tearing out and renewing leaky fittings. Prevents shutdowns. Has served industry 60 years. Stocked by most distributors.

M. B. SKINNER CO., South Bend 21, Ind. — Established 1898

▲ For more details circle NED-460 F on enclosed inquiry slip ▲

New Folder describes quick way to level machines . . .

Write for your free copy of this folder which includes prices.

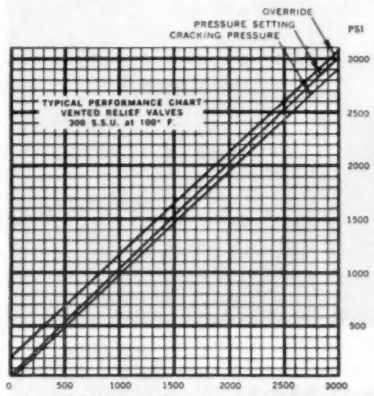
With the WEDGMOUNT method you can — **Level** machines quickly — **Reduce** installation time — **Reduce** vibration and noise with patented Air-Loc, which grips machines to floor without bolts or cement — **Support** on 100% area between machines and floor

Air-Loc® DIVISION
Clark-Cutler-McDermott Co.
103 West Central Street • Franklin, Mass.

▲ For more details circle NED-461 F on enclosed inquiry slip ▲

Take A Long, Close Look At The New H-P-M Relief Valves

The performance chart tells the complete story: Close control of cracking pressures; choice of high or low venting pressures to match your system requirements; low override for system protection and trouble-free operation. They're interchangeable with industry standards, ⅜", ¾" and 1¼" sizes, 3000 psi, 0 to 65 gpm. THE PRICES ARE COMPETITIVE.



Close control of cracking pressure assures accurate cycle control. Note low differential between opening and closing pressures.

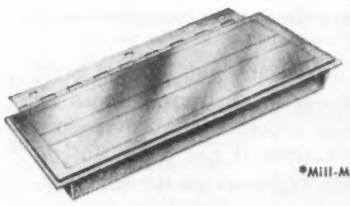
H52 HPM

THE HYDRAULIC PRESS MFG. COMPANY
A Division of Koehring Company, Mount Gilead, Ohio, U.S.A.

▲ For more details circle NED-462 F on enclosed inquiry slip ▲

FAIL-PROOF PROTECTION AGAINST TRAMP IRON

with STEARNS INDOX V* permanent plate magnets



*Amazing *oriented ceramic* magnet material used exclusively by Stearns. Extremely high energy product — light in weight — low in cost.

*Mill-Mutual Approved

Job-proved in hundreds of process industries

If your process involves handling flowing material in chutes, spouts, ducts, or on conveyors, check the Stearns INDOX V plate magnet before you buy. Delivers the greatest protection, size for size, yet costs up to 20 percent less than ordinary plate magnets.

Available in standard sizes and strengths from 4 to 48 inches.

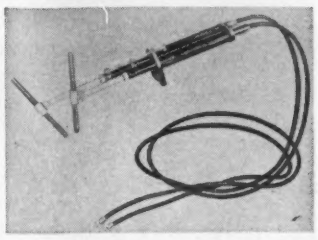
Call your local Stearns representative, or write for Bulletin 1074L.

STEARNS MAGNETIC PRODUCTS
DIVISION OF INDIANA GENERAL CORPORATION
635 South 28th Street • Milwaukee 46, Wisconsin

Profit with Stearns—First with Ceramic Magnet Separators for Industry

▲ For more details circle NED-463 F on enclosed inquiry slip ▲

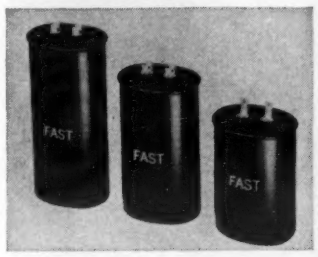
ARC TORCH
performs welding, brazing, heating



Intense heat is created electrically by this versatile arc torch. No pressure is developed which could displace molten metal or produce blow holes in thin gage metal. Uses include welding, brazing, general heating, and preheating prior to welding, soldering, and hard surfacing. Alternating current model is available with two 10-ft cables, four ⅜-in. carbons, four ¼-in. carbons, and adaptors for the smaller carbons. Direct current model is supplied with two 10-ft cables, two ¼-in. carbons, four 5/16-in. carbons, two ½-in. carbons, and adaptors. • **Metal & Thermit Corp.**, Rahway, N. J.

▲ For more details circle NED-464 F on enclosed inquiry slip ▲

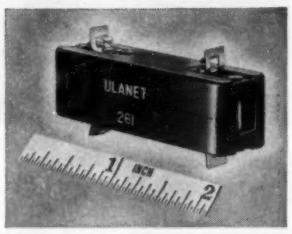
DIELECTRIC CAPACITORS
have motor and fluorescent uses



Hermetically sealed in oval - shaped drawn metal cases, this line of impregnated paper dielectric capacitors is suited for continuous duty service. General alternating current applications include use with heating, ventilating, and air conditioning motors; specialty transformers; industrial controls; and as fluorescent ballasts and light duty power factor correction capacitors. Solder or single and double-blade quick-connect terminals may be specified. Ratings of 236, 330, 370, 440, and 660 v ac have capacities from 2 to 20 mfd. • **John E. Fast & Co.**, 3598 N. Elston Ave., Chicago 41, Ill.

▲ For more details circle NED-465 F on enclosed inquiry slip ▲

THERMAL TIMER
has timer settings up to 2 min

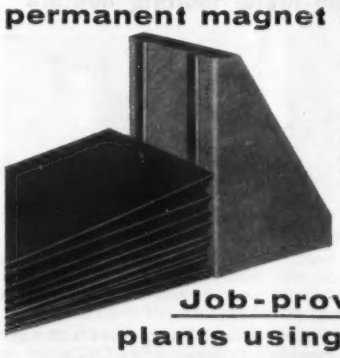


Two terminals for the contact circuit and two terminals for the heater circuit are built into the Model 261 thermal timer. The low cost, completely housed unit is available with normally-open contacts which close after energization, or normally-closed contacts which open after energization of the heater. Timer settings range up to 2 min. Contact rating is 100 w, 115 v ac noninductive, and the heater winding is rated at 24 v. Other heater voltages may be specified. • **George Ulanet Co.**, 413 Market St., Newark 5, N. J.

▲ For more details circle NED-466 F on enclosed inquiry slip ▲

SAVE TIME—PREVENT INJURY —BOOST PRODUCTION

with Stearns INDOX V* permanent magnet sheet fanner



*Amazing *oriented ceramic* magnet material used exclusively by Stearns. Extremely high energy product — light in weight—low in cost.

Job-proved in many plants using sheet steel

Powerful INDOX V magnet causes sheets to repel each other and fan out automatically — providing positive separation of even the dirtiest, oiliest sheets to speed up production and prevent mashed fingers.

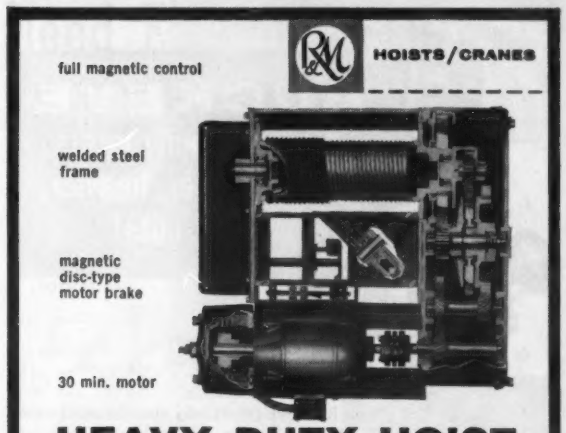
A well-known steel fabricator writes, "We find your Series 1000 INDOX V sheet fanner to be *the* solution to our problem with oily sheets. This magnet is the finest."

Call your local Stearns representative, or write for Bulletin 3041L

Profit with Stearns . . . first in ceramic magnet separators for industry.

STEARNS MAGNETIC PRODUCTS
DIVISION OF INDIANA GENERAL CORPORATION
635 South 28th Street • Milwaukee 46, Wisconsin

▲ For more details circle NED-467 F on enclosed inquiry slip ▲



HEAVY DUTY HOIST

CAPACITIES: ½ to 10 tons—Type F hoists, in four frame sizes, give you low headroom clearance plus rugged simplicity for demanding service. All-steel frame is welded for rigidity. R&M 1½ to 12½ hp motors have the highest time rating found in any standard hoist—30 min., 55° C. Load brake, three reductions of machined alloy steel heat treated gears and anti-friction bearings operate in splash oil bath. Motor brake is magnetic disc-type. Fully magnetic control features reduced push-button voltage. Wide choice of speeds and lifts. Plain, hand geared or motorized trolleys, or lug mounting. Request Bulletin 801-C today. Robbins & Myers, Inc., Hoist & Crane Division, Springfield, Ohio.

ROBBINS & MYERS
hoists, cranes, Moyno® pumps, motors, Propellair® fans

▲ For more details circle NED-468 F on enclosed inquiry slip ▲

Rubber or Plastic Parts Produced by the Hundreds or by the Millions

WE MATCH YOUR SPECS AND YOUR PRODUCTION SCHEDULES

WE CAN produce in quantity any part made of molded solid rubber (illustrated) or of extruded flexible vinyl plastic. We have complete engineering and technical personnel for working with you on developing the design or redesigning a part, plus a long and successful performance record on quality and deliveries to schedule. Send drawing, sketch or part for prompt quote.

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

▲ For more details circle NED-469 F on enclosed inquiry slip ▲

FAIL-PROOF PROTECTION AGAINST TRAMP IRON

with STEARNS INDOX V* permanent magnet pulleys

*Amazing *oriented ceramic* magnet material used exclusively by Stearns. Extremely high energy product — light in weight — low in cost.

Job-proved in hundreds of conveyor applications

Equals expensive electromagnetic types in performance, yet costs less than ordinary permanent pulleys.

Available in standard widths and diameters of from 12 to 48 inches to handle the deepest burdens.

Call your local Stearns representative or write for Bulletin 1021L.

STEARNS MAGNETIC PRODUCTS
DIVISION OF INDIANA GENERAL CORPORATION
635 South 28th Street • Milwaukee 46, Wisconsin

Profit with Stearns—First with Ceramic Magnet Separators for Industry

▲ For more details circle NED-470 F on enclosed inquiry slip ▲

Now Buckeye offers two new series of compact, air-powered routers which can make deeper, heavier, faster cuts than larger electrical routers of greater horsepower! Straight or intricate contour cuts can be made with speed and precision in most non-ferrous metals, wood, plastic, honeycomb. Both series feature dependable Buckeye air motor . . . lightweight, easily maneuvered base . . . positive-locking depth-of-cut adjustment. Available as portable units complete with base, or power unit only for permanent fixture mounting.

SPECIFICATIONS	CAPACITY: COLLET	SPEED RPM	WEIGHT (with base)	HEIGHT (with base)
SERIES 31	⅛" to ¼"	20,000	4¾ lbs.	7"
Series 31, Aircraft model	⅛" to ¼"	20,000	3 lbs.	7⅛"
SERIES 61	¼" to ½"	6,000-15,000	12 lbs.	10"

Write today for informative literature and prices!

Pioneering Power Tools for Industry Since 1920

Buckeye Tools CORPORATION
P.O. BOX 966, DAYTON 1, OHIO

▲ For more details circle NED-471 F on enclosed inquiry slip ▲

NOW!
Hoover Quality
in CYLINDRICAL
Roller Bearings

Now, there's a *new* achievement in cylindrical roller bearings . . . *Hoover Quality!* It features the exceptional smoothness of *Super-Finish* raceways and rollers. It is this extra smoothness that results in extra long life and superior performance.

Hoover cylindrical bearings are designed with crowned rollers that provide uniform load distribution for maximum radial load capacity and minimum friction. Retainers are machined solid bronze assuring strength and accurate roller guidance.

Hoover Quality cylindrical roller bearings are available in a complete range of sizes and series. Return the coupon below for complete information.

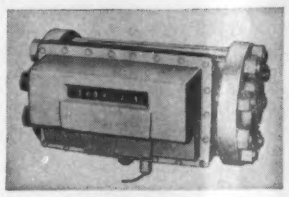
hoover
BALL AND BEARING COMPANY
5400 South State Road, Ann Arbor, Michigan

Zone Sales Offices and Warehouses: 8581 South Chicago, Chicago 17, Illinois; 290 Lodi Street, Hackensack, New Jersey; 2020 South Figueroa, Los Angeles 7, California

Hoover Ball and Bearing Company NED-6
5400 South State Road, Ann Arbor, Michigan
Please send new bulletin describing Hoover cylindrical roller bearings.
Name
Title
Company
Address
City State

▲ For more details circle NED-472 F on enclosed inquiry slip ▲

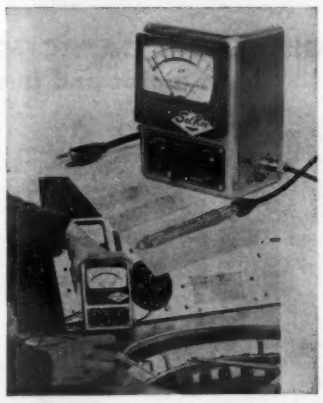
MASS FLOWMETER
for natural and industrial gas



True mass flow is measured directly in pounds by this mass flowmeter for natural, industrial, and ethylene gas. No calculations are needed for conversion of volume to weight. Meter weighs only 100 lb and operates with minimum of maintenance. It can be designed into remote controlled systems to operate recording, despatching, and accounting systems. • **Black, Sivals & Bryson, Inc.**, 7500 E. 12th St., Kansas City 26, Mo.

▲ For more details circle NED-473 F on enclosed inquiry slip ▲

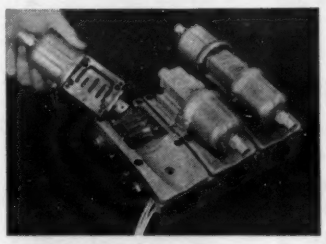
PORTABLE pH METER
features constant reading meter



Once-a-week standardization assures accurate, reproducible readings with the Electrion line-operated portable pH meter. It features a drift-free constant-reading meter, easily connected ground, and a single electrode. Rapid response tubes require no break-in time. Operation is on 115 v. • **Sel-Rex Instruments, Inc.**, 75 River Rd., Nutley 10, N. J.

▲ For more details circle NED-474 F on enclosed inquiry slip ▲

SOLENOID AIR VALVES
can be ganged on single manifold

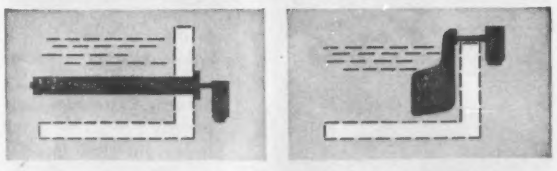


First in a series of MAC add-a-unit, solenoid operated air valves is four-way ¼-in. Model 551. Two to ten of the manifold-base units can be ganged together to form common inlet, common exhaust, and common conduit channels. If more than one pressure is to be used, valves are isolated and pressure fed from each end of the manifold. Construction permits plug-in interchangeable use of single or double solenoid operation without demounting the valve. Each manifold base has receptacles with attached leads for quick connection. Every base has both bottom and side ports with suitable plugs. Single solenoid model is $55 and double solenoid model is $70. • **Mechanical Air Controls, Inc.**, 10030 Capital Ave., Detroit 37, Mich.

▲ For more details circle NED-475 F on enclosed inquiry slip ▲

When you melt soft metals . . .

Reduce costs with General Electric melting pots and metal melting heaters



No matter what your metal melting problem, electric heat offers these advantages.

FAST MELTING: Electric heat cuts melting time by two thirds because every Btu goes directly from heater to the metal. On actual test, eight tons of metal were melted from ambient in one hour and ten minutes.

AUTOMATIC CONTROL: With General Electric heaters you get evenly regulated temperatures—automatically. Oxidation is reduced. Operating costs are lowered.

LOW MAINTENANCE: General Electric heaters often give 15 years or longer service without maintenance. Heaters can be replaced quickly without interrupting production.

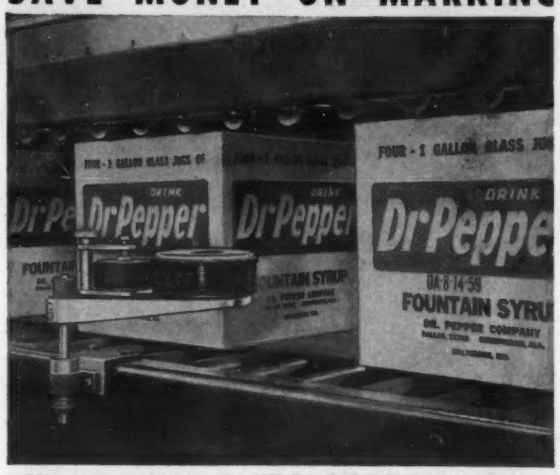
FREE BULLETINS

For more information, write Section 723-32, General Electric Company, Schenectady 5, N. Y., and ask for GEA-5098 MELTING METALS, GEA-6113 SELECTOR GUIDE FOR METAL MELTING, and GEC-1005 CATALOG OF GENERAL ELECTRIC HEATERS AND DEVICES.

GENERAL ELECTRIC

▲ For more details circle NED-476 F on enclosed inquiry slip ▲

SAVE MONEY ON MARKING



with an automatic "ROLACODER" marker

Attaches to conveyor, case-sealer, etc. to mark from side or top • Works by friction • Imprints legible mark in same spot on case after case • Holds up to full week's supply of ink • Takes only 1 or 2 minutes to change type • No tricky adjustments • Precision-made for long trouble-free service • Pays for itself in months • Other models for marking 2 and 4 sides simultaneously

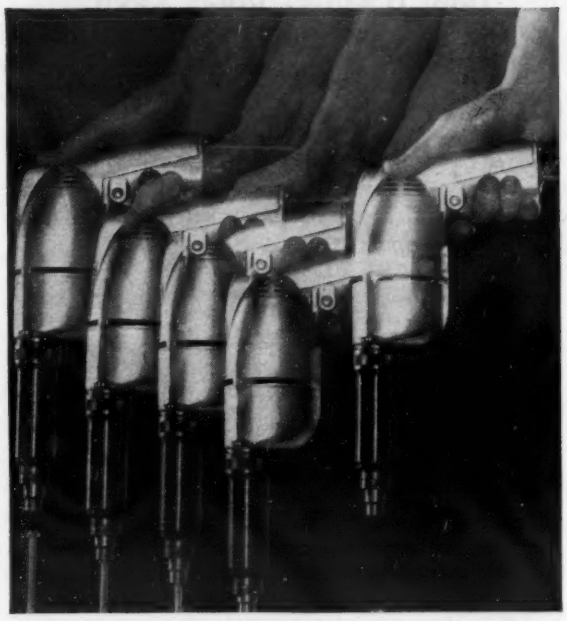
Write for "ROLACODER" literature

First and foremost in automatic production-line CODING MARKING and IMPRINTING machines — Gottscho®

GOTTSCHO Dept. N
HILLSIDE 5, N.J.

In Canada: Richardson Agencies, Ltd. • Toronto & Montreal

▲ For more details circle NED-477 F on enclosed inquiry slip ▲



EXACT TENSION...
500 SCREWS OR 500,000!

New Skil Anti-Ratcheting Driver rules out rejects

Set the torque on this driver for *any* assembly job and it'll stop driving the instant exact tension is reached.

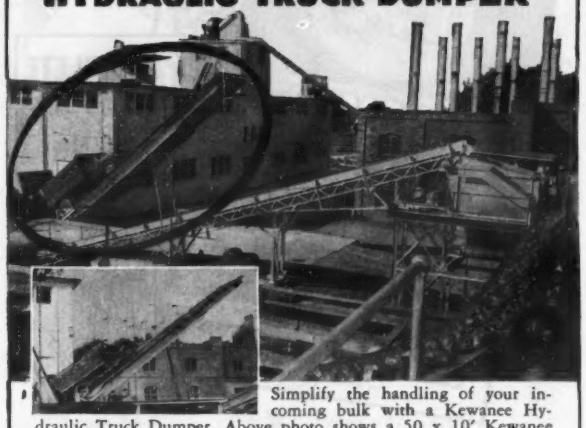
A half million drives later you still get exact tension every time—never a stripped thread or damaged part, never a chance of costly rejects. And since torque control is not dependent on operator's skill, even beginners get the same fast, uniform results as experienced workers.

Drivers simply don't come any faster, any quieter, any better! Your Skil distributor has the proof. Ask him for a demonstration of either Model 235 (standard) or 272 (Reversing). He's listed in the Yellow Pages under "Tools-Electric". Or write: Skil Corporation, Dept. 119F, 5033 Elston Avenue, Chicago 30, Illinois. In Canada: 3601 Dundas Street West, Toronto 9, Ontario.

SKIL ...and SKILSAW POWER TOOLS

▲ For more details circle NED-478 F on enclosed inquiry slip ▲

SUGAR BEETS— UNLOADED BY A— Kewanee HYDRAULIC TRUCK DUMPER



Simplify the handling of your incoming bulk with a Kewanee Hydraulic Truck Dumper. Above photo shows a 50 x 10′ Kewanee unloading sugar beets in a midwestern sugar refinery.

Kewanee's cut costs by enabling you to systemize your flow of material. They are used for dumping any free-flowing material, viz.: Grain, Cotton Seed, Wood Pulp Chips, Chemicals, Glass Cullet, Limestone, Clays, Cabbage, Fruits and numerous other products. Available in sizes to accommodate all trucks or tractor-trailers.

Write today for Engineering Data

SCREW CONVEYOR CORPORATION

719 Hoffman Street • Hammond, Indiana
Winona, Mississippi • Santa Clara, Calif.
Tampa, Fla. • Hackensack, N.J. • Memphis, Tenn. • Dallas, Tex.

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Compact, economical, safe. All revolving parts are covered. Instantly adjustable. Shreds ⅛″ to ⅜″. Designed for continuous and trouble-free service.

Quickly shreds newspapers, magazines, waste paper, cellophane, tissue, corrugated cartons, wax paper, etc. into uniform resilient 1/8″ to 3/8″ strands, ideal for packaging purposes. Especially adapted to shredding confidential records, blue prints or any classified material. Send for descriptive bulletin S1255. Names of users near you available on request.

FREE TRIAL! Operate a SHRED ALL for 30 days — if not satisfied — return — owe nothing.

UNIVERSAL SHREDDER CO.
2934 Bay Road — Saginaw, Michigan

▲ For more details circle NED-480 F on enclosed inquiry slip ▲

NEW BOOK *helps you select belt idlers and pulleys*

This new 76-page bulletin was designed to simplify your belt conveyor idler and pulley selection problems.

Idlers are "rated" for job requirements. You select from simple tables with the assurance that you are making the best possible selection for your service. No cumbersome, complicated engineering charts...no confusion... just a few simple steps.

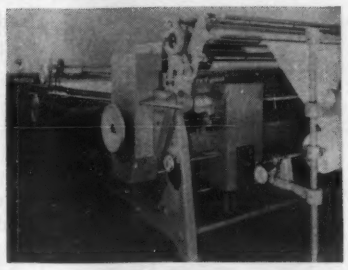
Pulleys are listed by service classifications... each class "rated" for individual service conditions. Complete specifications and dimensions for the broad line of welded steel pulleys simplify your selection.

For your copy, write CHAIN Belt Company, 4686 W. Greenfield Ave., Milwaukee 1, Wis. In Canada, write CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave. East, Toronto.

REX® CHAIN BELT COMPANY

▲ For more details circle NED-481 F on enclosed inquiry slip ▲

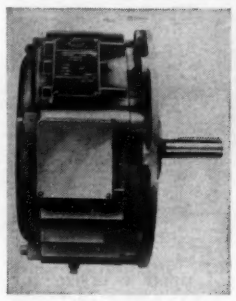
ROLL SHEET CUTTER
automatically cuts various materials



Rolls of paper, board, thin gage plastics, film, foil, and textiles up to 70 in. wide are converted into sheets by this automatic sheet cutter. The 72-in. machine handles one to ten rolls at a time and makes up to 180 cuts per minute. Attachments include an electric eye, slitter, sheet piler, and speed lap delivery, a device which enables sheets to be cut from single or multiple rolls. • **Charles Beck Machine Corp.**, Church Road, King of Prussia, Pa.

▲ For more details circle NED-482 F on enclosed inquiry slip ▲

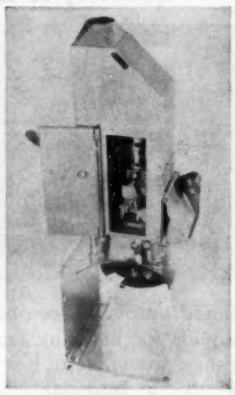
FLAT TYPE MOTORS
for machine, pump, conveyor use



Nonventilated and fan-cooled types of flat electric motors reportedly weigh less than one-half as much as conventional NEMA Design B motors of equal horsepower. They are also 48 per cent shorter. Both totally enclosed types are available with flange, face, and special mountings, in a variety of voltages and speeds. Nonventilated Type PT is made in ½ to 7½-hp sizes and fan-cooled Type PK is made in ⅓ to 10-hp sizes. Line was formerly made by Diehl Mfg. Co. • **Howell Electric Motors Co.**, Howell, Mich.

▲ For more details circle NED-483 F on enclosed inquiry slip ▲

SELF-CONTAINED HEATER
operates on any liquid fuel



Self-contained and requiring no outside power source, this space heater develops 6000 Btu/hr and burns gasoline, kerosine, diesel oil, or any other liquid fuel. With slight modification, it will deliver 10,000 Btu/hr. It measures 16¼ in. high, 3½ in. wide, and 2¾ in. deep, and weighs only 5 lb. Made of stainless steel, it has suggested applications in earth moving and material handling equipment, machine tools, space heating, and similar uses. It will operate continuously, is easy to light, has low fuel consumption, and has an automatic damper. • **Midland-Ross Corp.**, Janitrol Aircraft Div., 4200 Surface Rd., Columbus 4, Ohio.

▲ For more details circle NED-484 F on enclosed inquiry slip ▲

FREE BULLETIN

gives quick facts to help you select "TOPS" conveyor chains

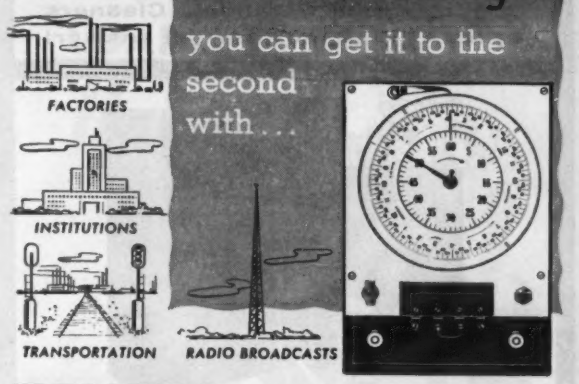
Which is the best type of "tops" conveyor chain for your particular application? Here, fast and easy, is step one in selecting the type that will be most economical, most efficient for you.

Bulletin No. 6061 illustrates and briefly describes six popular Rex "Tops" Conveyor Chains that are cutting costs in operation and maintenance throughout industry. Write CHAIN Belt Company, 4686 W. Greenfield Ave., Milwaukee 1, Wisconsin. In Canada: CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave. East, Toronto.

REX® CHAIN BELT COMPANY

▲ For more details circle NED-485 F on enclosed inquiry slip ▲

Need Efficient Timing?



you can get it to the second with...

ZENITH program timers

Signal bells, buzzers, lights, etc. are dependably controlled with ZENITH units—proved in countless applications. Synchronous motor for accuracy...5-minute intervals in any 24-hour schedule ...easily changed...calendar cutout optional. *Write for bulletin.* See Classified Phone Book for Factory Representative.

TIMERS FOR ALL APPLICATIONS

ZENITH ELECTRIC CO.
152 W. WALTON ST. • CHICAGO 10, ILL.

▲ For more details circle NED-486 F on enclosed inquiry slip ▲

CHECK CORROSION OF YOUR BUILDINGS, STRUCTURES

with Flintkote Asphalt Protective Coatings!

Be sure of longest term durability with ASPHALT BASE CLAY EMULSIONS. *They are specially formulated to meet your most exacting requirements.*

Types:
- C-13-E (non-fibrated) brush or spray applied
- C-13-C4 (lightly fibrated) brush applied
- C-13-A (heavily fibrated) trowel applied
- C-13-HPC (primer-general coating) brush applied

Finish these coatings with Flintkote Aluminum Paint or DECORALT† latex seal in colors for light reflection.

For complete information write: The Flintkote Company, Industrial Division, 30 Rockefeller Plaza, New York 20, N. Y.

†A trademark of the Flintkote Company

FLINTKOTE

Manufacturer of America's Broadest Line of Building Products

▲ For more details circle NED-487 F on enclosed inquiry slip ▲

FREE BOOK ON BEARINGS

Gives you complete data on the industry's most complete line of mounted roller bearings—Shafer.

This new Shafer catalog is compiled specifically to help you meet the increased responsibilities of building greater speed, higher load capacities and longer life into your equipment.

It is packed with factual information on roller bearing design—specifications, lubrication, seals and installation features that protect your equipment. Send for your free copy. CHAIN Belt Company, 4686 W. Greenfield Avenue, Milwaukee 1, Wis. In Canada: CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave., East, Toronto.

SHAFER® BEARINGS
CHAIN BELT

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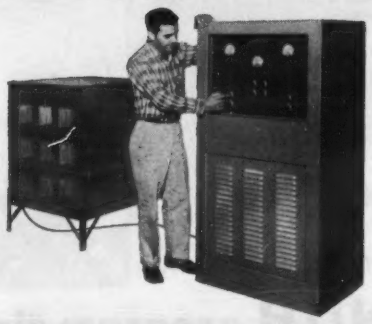
CLEANING PROBLEM?
SONOCEN® Ultrasonic Cleaners by BRANSON may be your answer!



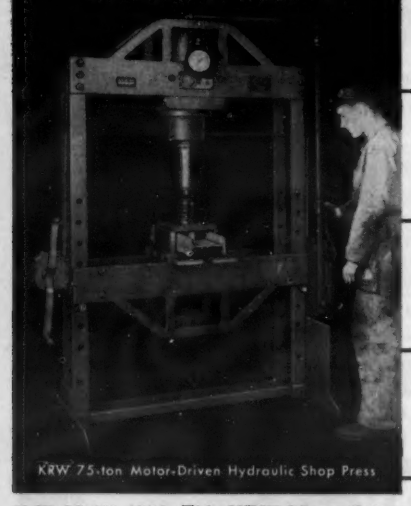
Experienced counsel in planning, installation, and maintenance of ultrasonic cleaning systems. Wide range of standard, use-proven units combine into efficient cleaning systems with any needed features and capacity from benchtop size to the largest engineered batch or conveyorized installation. Assured nationwide service by factory-trained specialists. Tell us your problem.

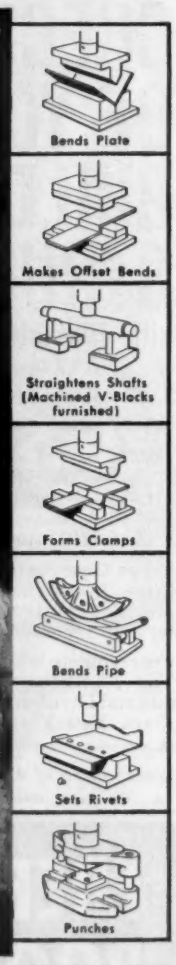
BRANSON ULTRASONIC CORPORATION
56 Brown House Road • Stamford • Connecticut

▲ For more details circle NED-489 F on enclosed inquiry slip ▲

KRW

MULTI-JOB PRESS DOES ALMOST EVERYTHING!





JACK OF ALL JOBS: This KRW Motor-Driven Hydraulic Shop Press performs all sorts of work that calls for a "squeeze" (up to 75 tons) There's practically no limit to what it can do. The jobs shown above are but a few. Dies can be readily improvised for hundreds of applications.

QUICK CHANGEOVER: It usually takes only a minute or two to switch from one setup to another. As a result, many a KRW shop press that has been purchased for one job is now doing dozens.

SPEED, ACCURACY AND OPERATING EASE: Developed by a maker of numerous types of hydraulic presses, KRW features assure bonus performance: Bed and crown members truss-reinforced. Any pressure up to rated tonnage quickly attained. Convenient lever controls ram. Excellent inching. Spring return of ram. Direct-connected motor drive.

GET THE FULL STORY on this versatile machine as well as other KRW hydraulic shop presses (motor-driven and hand-operated, 25 thru 150 tons). Mail the coupon below.

K. R. WILSON, INC.
1228 MAIN STREET, ARCADE, N. Y.

MAIL illustrated bulletins on KRW Motor-Driven and Hand-Operated Shop Presses to us, without obligation.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

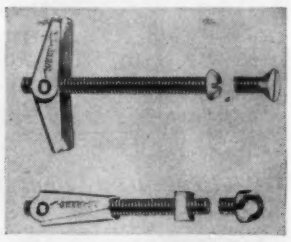
▲ For more details circle NED-490 F on enclosed inquiry slip ▲

SMALL ABRASIVE DISCS
five diameters up to 2¼ in.

Used on high speed power tools and stationary disc sanders, these small abrasive discs are packaged in clear butyrate plastic tubes. The pressure-sensitive discs are employed mainly in metal grinding and finishing operations. Diameters from ½ to 2¼ in. are packaged in five sizes of tubes for storage, handling, and protection against dust and moisture. • **Behr-Manning Co.**, Drawer 808, Troy, N. Y.

▲ For more details circle NED-491 F on enclosed inquiry slip ▲

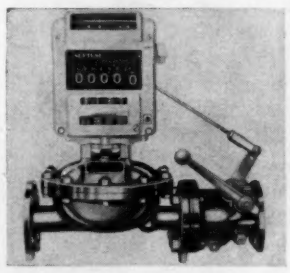
WING TOGGLE BOLTS
in ⅛ through ½-in. sizes



Toggle wings of this zinc-plated two-wing toggle bolt spring open when the hollow area is reached, providing an excellent anchoring grip. Used for difficult or unusual fastening applications, bolt is full-threaded to accommodate different wall thicknesses, and the trunnion nut is tapped oversize for quick, easy installation. It is available in ⅛ to ½-in. diameters with round, flat, and mushroom head screws. By reversing the screw head, a decorative acorn nut can be used. • **Arro Expansion Bolt Co.**, Marion, Ohio.

▲ For more details circle NED-492 F on enclosed inquiry slip ▲

LIQUID BATCHING METER
quantity is set with pushbuttons



Liquid flows unattended through this 1½-in. stainless steel Auto-Stop batching meter until preset quantity is reached, then is cut off automatically. Quantity is set with pushbuttons on register face. The positive displacement meter, with only one moving element exposed to liquid, provides controlled measurement of corrosive liquids for batching and processing. It has a capacity range from 20 to 100 gpm and can be calibrated for U. S. or Imperial gallons, liters, or pounds. Units can be furnished also with Auto-Switch control, repeating Auto-Stop, ticket printer, or any combination. • **Neptune Meter Co.**, 47-25 34th St., Long Island City 1, N. Y.

▲ For more details circle NED-493 F on enclosed inquiry slip ▲

in new all-weather sanitary, tamper-proof "throw-away" dispensers of high impact styrene plastic

IN 2 sizes 500 Tablets 1000 Tablets Easily Put Up INDOORS OUTDOORS

"Pep-Up"® The Original and Highest Quality
IMPREGNATED SALT TABLETS

- combat heat fatigue
- hold down hot weather accident rates
- help employees feel good and retain their vigor

Impregnated to Prevent "Salt Sickness". Each salt crystal individually coated to give slow, controlled dissolving, to prolong benefits and eliminate nausea.
Made and packaged by USSSCO under U. S. Patent No. 2,478,182
A SIZE AND PACKAGE FOR EVERY NEED
Select from list below. New all-plastic dispensers at no increase in price.

Item	Cat. No.
500 Tablets in Expendable Dispenser	1114
1000 Tablets in Expendable Dispenser	1124
1500 Tablets in Bulk Carton	1131
Carton, 24 "Vest Pocket" vials of 20 tablets each	1101

UNITED STATES SAFETY SERVICE CO.
1553 Walnut St., Kansas City 8, Mo.
Branches in Principal Industrial Cities
Canada: Permelee, Ltd., Toronto & Montreal

▲ For more details circle NED-494 F on enclosed inquiry slip ▲

This handy reference describes Lewis-Shepard's *complete* line of "manually-operated," "intermediate" and "all-electric" equipment. Here is everything you need for a fully-integrated materials handling system. Write today for your free copy of L-S Condensed Catalog 80-204.

L-S LEWIS-SHEPARD®
176 Walnut Street, Watertown 72, Mass.

▲ For more details circle NED-495 F on enclosed inquiry slip ▲

Unconditionally Guaranteed!

FLEXO-PRESS
...answer to the weakest link in your packaging line

Do deadlines trouble you because your marking equipment can't keep up with your packaging machines? Then IME Flexo-Press is your answer: it automatically imprints the package as it's being wrapped. It also can be used to code, date, price or product identify. Operating speeds are always in direct proportion to the packaging equipment – Flexo-Press draws its power directly from the parent machine: perfect coordination of marking with packaging production. Needs no operator, never hampers operation of parent machine. Printing impressions are always uniform, no heavy at first then fading out – an improvement made possible by a unique IME engineering design. Write today for complete information. Dept. NED

TRY IT ON:
Stokes
Hayssen
Battle Creek
Scandia
Transwrap
Oliver
Globe
Bartelt
Wrap-King
Corley Miller
and others

ime INDUSTRIAL MARKING EQUIPMENT company, inc.
655 BERRIMAN ST. BROOKLYN 8, N. Y. NI 9-3305

▲ For more details circle NED-496 F on enclosed inquiry slip ▲

Sutton NEW IMPROVED MOTOR DRIVEN PRESSURE BLOWER

ONE-PIECE HOUSING
SELF-CLEANING WHEEL

for EXHAUSTING Dust . . Smoke Fumes . . Vapor
COOLING
DRYING
CONVEYING Cotton . . Wool Shavings
FORGE BLASTING

3 SIZES ¼, ½, 1 H. P.

STRONG . . LIGHT CAST ALUMINUM

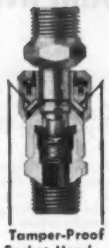
Even, non-pulsating air flow . . 100-800 cu. ft. per min. at ½" to 6" static pressure. Straight wall construction cuts windage . . ups efficiency. 3450 r.p.m. direct connected 60-cycle motor . . open or totally enclosed. Set discharge in 8 different positions.

WRITE FOR DESCRIPTIVE LITERATURE

Sutton Manufacturing Corp.
112 W. WILSON AVENUE
NORFOLK, VIRGINIA

▲ For more details circle NED-497 F on enclosed inquiry slip ▲

ONE-WAY SHUT-OFF



Tamper-Proof Socket Head — with leak-proof, minimum wear, locking device.

- Quick connection and disconnection – as easy as plugging in your electric shaver.
- Instant automatic flow or shut-off.
- Factory assembled socket head cannot be readily damaged—or have component parts lost by casual tampering.
- Locking pins afford large area contact with Plug—reduces wear to a minimum.

Write for Catalog — a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities ...See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle NED-498 F on enclosed inquiry slip ▲

BORIUM Nozzles are lined with pure tungsten carbide, outlast cast iron nozzles *hundreds* of times!

GUARANTEED 300 HOURS when used with silica sand... efficient performance with *all* abrasives.

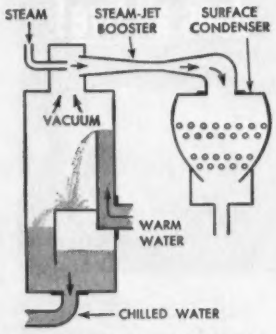
FREE LITERATURE. Write for data on standard and special BORIUM Nozzle types for all blast cleaning requirements!

STOODY COMPANY 11992 East Slauson Avenue Whittier, California

▲ For more details circle NED-499 F on enclosed inquiry slip ▲

How to **REFRIGERATE** with **WATER**

In I-R Steam-Jet Coolers, water is the only refrigerating medium used!



Water and steam are *all you need* to provide a dependable supply of chilled water, at temperatures down to 35 F, when you use an Ingersoll-Rand Steam-Jet Refrigerating System.

There are no hazardous gases, no high pressure vessels or equipment, and no vibration. Water is chilled by *evaporation* in a vacuum chamber which is evacuated by a steam-jet ejector. Either barometric or surface condensers can be used, depending on the economics of the installation.

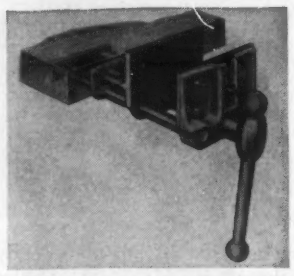
Advantages of this I-R system include safety, ease of installation, uninterrupted service, large overload capacity, low maintenance and ease of control. Combinations are available for any capacity between 30 and 1500 tons of refrigeration.

Send for Bulletin No. 9143-B

Ingersoll-Rand
4-776 11 Broadway, New York 4, N. Y.

▲ For more details circle NED-500 F on enclosed inquiry slip ▲

WOODWORKERS' VISES in 7 and 10-in. jaw widths



Both quick-acting and solid nut models, with or without vise dog, are offered in line of woodworkers' vises. Quick-action models feature a nut design which permits use of continuously threaded screw for unlimited tightening. Screw remains fully engaged so long as handle is turned clockwise, yet releases instantly when handle is backed off a quarter turn. Both jaws are drilled for wood facings. Vise dog models have a coil spring which keeps dog at selected height. Vises are available with 7 or 10-in. jaw widths. • **Reed Mfg. Co.**, 1425 W. Eighth St., Erie, Pa.

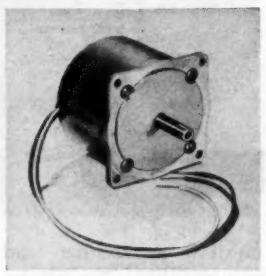
▲ For more details circle NED-501 F on enclosed inquiry slip ▲

AIR-HYDRAULIC BOOSTER boosts 80-psi air to 3000-psi oil

Compact, easy-to-install air-hydraulic booster operates on 80-psi compressed air supply and boosts it to 3000-psi hydraulic pressure without use of additional power or motors. It is used for powering spot welders, C-frame riveters, hydrostatic testing equipment, workholding fixtures, and bench or arbor presses. Unit will deliver up to 200 strokes per minute and maintains its intensified hydraulic pressure indefinitely without added power consumption or heat generation. Boosters can be applied to both single and double-pressure circuits. • **S-P Mfg. Corp.**, 30201 Aurora Rd., Cleveland 39, Ohio.

▲ For more details circle NED-502 F on enclosed inquiry slip ▲

SYNCHRONOUS MOTOR 72-rpm output with 50 oz-in. torque



Small size of Slo-Syn Type SS50 synchronous motor makes it especially useful in OEM instrument and computer, selector switch, tape handling, and process timing applications where space is limited. On input of 120 v, 40/70-cycle, single phase, 0.30 amp, output is 72 rpm at 60 cycles with 50 oz-in. torque. Unit uses Class B insulation and is rated for 75° C temperature rise from 40° C maximum ambient under continuous duty. Standard planetary gear speed reductions provide speeds of 16.6, 3.3, 0.67, 0.133, or 0.027 rpm. Motor has three leads, weighs 3 lb, and is priced at $36 without planetary gears. • **Superior Electric Co.**, Dept. SS, 83 Laurel St., Bristol, Conn.

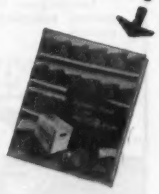
▲ For more details circle NED-503 F on enclosed inquiry slip ▲

lower your pumping costs with "K" Line motorpumps!

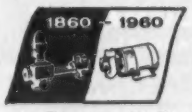
COMPACT, MULTI-PURPOSE "K" Line Motorpumps deliver high output with low-cost, maintenance free operation:

- off-the-shelf delivery
- ⅓ through 25 horsepower
- Up to 775 gallons per minute
- Heads to 190 feet

Precision made impellers, mechanical seals, threaded connections, varied discharge positions, easy mounting. Get all the facts on this sturdy efficient pump . . . Write today for "K" Line Catalog or see your local I-R representative or distributor.



90A-9

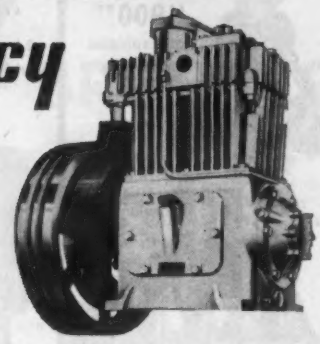


A CENTURY OF PUMP PROGRESS from the leading Manufacturer

Ingersoll-Rand
11 Broadway, New York 4, N. Y.

▲ For more details circle NED-504 F on enclosed inquiry slip ▲

Starting? LOADLESS WITH Quincy



A Quincy Compressor gets away to a smooth start each time because of patented Loadless Starting. This feature keeps the compressor unloaded until full operating speed is reached. The same exclusive system also provides free-rolling Loadless Stops.

Other features include Safe-Q-Lube pressure lubrication, light-weight automotive type pistons, cushioned steel valves and perfectly balanced crankshaft. Authorized service available across the country — around the clock.

Models from 1 to 90 CFM. *Write for catalog.*

QUINCY COMPRESSOR CO., Dept. N660, Quincy, Ill.
Makers of the World's Finest Air Compressors

▲ For more details circle NED-505 F on enclosed inquiry slip ▲

POSSONS **PULL-BACK** SAFETY DEVICES

For:
PUNCH PRESSES
TOGGLE PRESSES
PRESS BRAKES
EMBOSSING PRESSES
DROP HAMMERS

Pulls operator's hands out of danger if he forgets or if press repeats!

PULL-BACK ACTION is performed by steel-cored cables, fastened to wrist bands on the operator's hands. The pull-back is actuated by a multiplier (gear, rack and cam), connected by a rod to the press ram below any possible breaking point. For free aisle space, use beam or ceiling attached type. FREE CATALOG—Shows how POSSONS Safety Devices are applied to various types of presses. Engineering service available.

THE POSITIVE SAFETY MANUFACTURING CO.
4404 Perkins Avenue • Cleveland 3, Ohio • UTah 1-1878
In Canada: SAFETY SUPPLY COMPANY • Toronto, Ontario

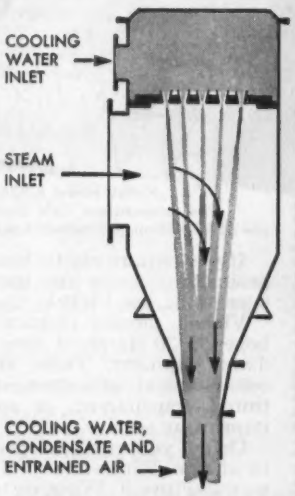
▲ For more details circle NED-506 F on enclosed inquiry slip ▲

How to **CONDENSE STEAM** and **PULL A VACUUM** with nothing but **WATER**

I-R Ejector-Jet Barometric Condensers provide low-cost condensation and evacuation wherever there is an ample supply of clean cooling water and the condensate need not be reclaimed. Since no air-removal equipment is needed, they are ideal for use where extreme simplicity of operation and low first cost are desired. Typical applications include steam turbine, vacuum pan and evaporator service.

In operation, water at atmospheric pressure or slightly higher enters at the top and is injected into the steam space through nozzles which form high-velocity jets. As the steam is condensed, air and gases are entrained by the water and carried to an open hot well. A valve in the water line is the only "control" needed.

Disc-flow type units are also available.



Send for Bulletin No. 9012-A

Ingersoll-Rand
4-781 11 Broadway, New York 4, N. Y.

▲ For more details circle NED-507 F on enclosed inquiry slip ▲

For LOW COST Hole Production
Pick a MULTI-DRILL® to Fit the Job

Commander MULTI-DRILLS—adjustable multiple spindle drill press attachments—are sold and serviced by a nation-wide network of Commander Distributors—experienced, helpful specialists in solving drilling and tapping problems. Write for the name of your nearest Distributor and the complete Commander Production Tool Catalog which contains full details on every MULTI-DRILL and many other production drilling and tapping tools.

Commander MFG. CO.
4226 W. Kinzie Street • Chicago 24, Illinois

▲ For more details circle NED-508 F on enclosed inquiry slip ▲

get the convenience and economy of
ELLISCO SEAMLESS CANS

These cans are: light in weight to lower your shipping costs; made of one piece to prevent loss of your product; unbreakable for complete product protection. They are made for storing, shipping, sampling, packaging special parts, and many other industrial uses. Available in capacities from 1/16 oz. to 16 oz. plain or with LabelStik covers for identifying contents:
Flat, from 1 5/16" dia. x ¼" deep to 5½" dia. x 1¼" deep.
Deep, from 1 5/16" dia. x 5/16" deep to 4" dia. x 2⅝" deep.
Most standard sizes carried in stock. Many special sizes made to order. We also invite inquiries for small stampings, parts and assemblies.

Ellisco
Write, wire or call for more details and Bulletin 116.
GEORGE D. ELLIS & SONS, INC.
American & Luzerne Streets, Dept. M3
Philadelphia 40, Pa. Baldwin 3-3405

Square and Rectangular Double-Seamed Cans. 33 Base Sizes.

▲ For more details circle NED-509 F on enclosed inquiry slip ▲

Vlchek Plastic Boxes for every need

Vlchek Model P-824
24 compartment, clear plastic box
one of largest compartmented boxes ever molded

If you require plastic boxes for packaging your products . . . or for use in plant and office operations, see Vlchek.

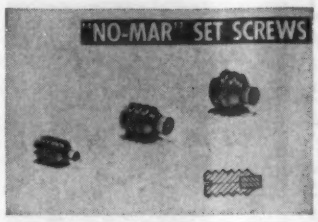
Vlchek, pioneer plastics manufacturer, stocks boxes in 30 standard sizes . . . ready for immediate shipment. These are available in 1,000 compartment arrangements . . . crystal clear, tinted transparent, or solid colors. Complete imprinting service.

Or, if you need a special box of any type or shape, Vlchek will design and custom-manufacture it. Write us today. Our representative will call promptly. AA-9913

The **Vlchek** *Tool Co.*
SINCE 1895
Cleveland 4, Ohio

▲ For more details circle NED-510 F on enclosed inquiry slip ▲

SET SCREWS
nylon tip prevents marring



Slotted head and socket head types of No-Mar set screws have a nylon tip which, when tightened to a shaft, protects the shaft from marks or mars. Full face contact tip takes the shape of the curved shaft when locked in place. By embedding itself in the thread hole, the tip in effect becomes a lock washer. Sizes from No. 2-56 to ¼-20 are stocked in a variety of lengths. • **PIC Design Corp.**, 477 Atlantic Ave., East Rockaway, L. I., N. Y.

▲ For more details circle NED-511 F on enclosed inquiry slip ▲

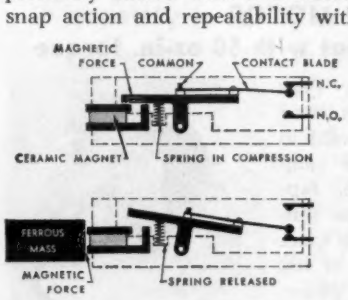
BAND SAW BLADE
of alloy steel has long life

Usable either on standard or automatic machines, this Lenox Master-Band saw blade is reported to outlast conventional metal-cutting saw bands from four to eight times. It is especially effective on tough alloy steels. These precision welded and ground blades are available in standard sizes. • **American Saw & Mfg. Co.**, Springfield, Mass.

▲ For more details circle NED-512 F on enclosed inquiry slip ▲

PROXIMITY SWITCH
low cost, snap action type unit

Performing as a standard limit switch, this low cost proximity switch with a microsensitive transducer has snap action and repeatability within 0.001 in. Differential between on and off position is about 0.008 in. The shock resistant, coil spring loaded switch maintains high constant pressure and cannot dwell between on and off position. Contacts are rated at 6 amp on 110 v resistive load and 3 amp at 220 v for nominal life. Switch is actuated by objects traveling either axially or tangentially, the latter with no limitations on overtravel. It may be keyed to a selected contour or an oriented magnet as the actuating device to permit switching across a larger gap without loss or reliability. The 13/16-in. OD by 2½-in. long unit is sealed against moisture and dust. Price is $17.50. • **Tann Corp.**, 3750 E. Outer Dr., Detroit 34, Mich.



▲ For more details circle NED-513 F on enclosed inquiry slip ▲

DRAKE *"Tinylite"*
Lampholders and Indicator Light Assemblies are the ideal units for space saving . . .

The advent of the much smaller "Tinylite" style lamps opens up many new possibilities for miniaturizing all kinds of devices—dial lighting, instrument indicators, scale lighting on transistor radios, toys and novelties are a few examples.

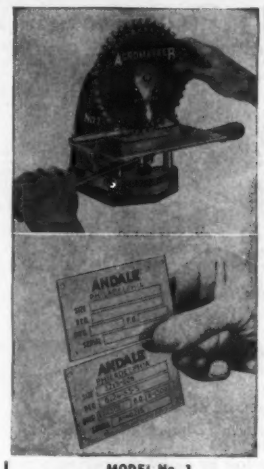
DRAKE now offers a series of "Tinylite" Midget Screw Lampholders only 1/5 as large as standard units (with lamp installed); and "Tinylite" Type No. 121 Midget Indicator Light Assemblies, the smallest available Indicator Lights with replaceable lamp and completely insulated from housing, supplied either with plastic dome lens or flat cap, lettered or numbered, and complete with lamp.

Investigate the many possibilities with these skilfully engineered subminiature units, which can save you both space and money.

★ SEND FOR DATA SHEETS, QUICK REFERENCE CATALOG OF THE BIG DRAKE LINE

DRAKE MANUFACTURING COMPANY
4624 N. OLCOTT AVENUE • CHICAGO 31, ILLINOIS
MINIATURE LIGHTING SPECIALISTS

▲ For more details circle NED-514 F on enclosed inquiry slip ▲



MODEL No. 1

$187.50 EACH
while they last

the famous ACROMARKER® NAME PLATE and PARTS STAMPING MACHINE

While our stock of steel parts and frames lasts, Model No. 1 with one die wheel (40 characters) any one size 1/16" to 3/16", will cost you $187.50 F.O.B. Elizabeth, N. J.

Thousands have been sold for stamping name-plates, tags, scales, parts, tickets, etc. of steel, brass, copper, zinc, tin, aluminum, fiber, plastic, wood, leather and other metals and materials with uniform deeply indented, perfectly spaced lettering and numbering. Makes your own name and instruction plates.

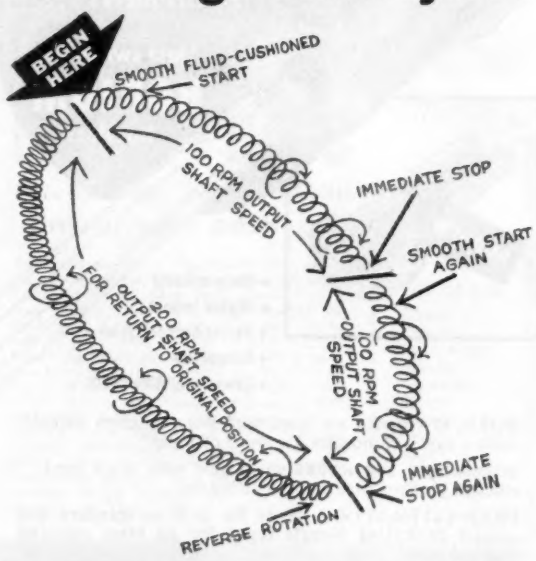
ACROMARK Power Press Name-Plate Stamping Machines Automatically stamp all data and Serial Numbering.

ORDER TODAY. Specify die size.

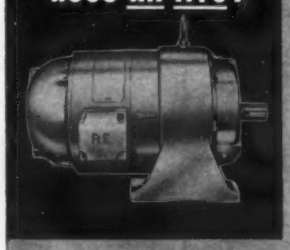
The ACROMARK Company
7-11 Morrell St. Elizabeth 4, N. J.
"The Original Marking Specialists"

▲ For more details circle NED-515 F on enclosed inquiry slip ▲

How would you solve this 5-stage drive cycle?



This one modern REULAND power package does all five!



Modern Reuland Power represents a whole new concept in electric motors. Today, motors are supplied as complete drive packages...*tailored to the needs of each customer.*

Shown here is a typical demonstration of *Modern Reuland Power.* Contained within this one frame is a fluid coupling . . . two-speed reversing duty motor...gear reducer...and magnetic brake.

Would a similar drive *package* help *you?*

OUR NEW GENERAL CATALOG WILL COME IN HANDY—SENT FREE ON REQUEST

Gives details on Reuland's "Xpandable Design" and Free Special-Motor Library. Be sure to get a copy for your files.

REULAND MOTORS
REULAND ELECTRIC COMPANY
WESTERN DIVISION: Alhambra, Calif.
EASTERN DIVISION: Howell, Michigan
DISTRIBUTORS IN ALL PRINCIPAL CITIES

Refer to Sweet's Product Design File, Section 5a

▲ For more details circle NED-516 F on enclosed inquiry slip ▲

NEW from Taylor!

New 395R Indicating Pressure Controller

LOW COST and DEPENDABLE . . .

Extremely sensitive to slight pressure changes. Offers excellent readability, precise set point adjustment and a moderate amount of Sensitivity or Proportional Band adjustment.

Composed of three sub assemblies, it is designed for easy adjustment and servicing. It can be mounted on top or at the side of the valve and is available with brackets for mounting on valve actuator, valve body or on a panel.

Write for **Bulletin 98363.** Taylor Instrument Companies, Rochester, New York or Toronto, Ontario.

Taylor Instruments MEAN ACCURACY FIRST

▲ For more details circle **NED-517 F** on enclosed inquiry slip ▲

TOKHEIM High-Vacuum HAND PUMPS for industrial liquids

Here's an all 'round utility pump that saves much more than its cost in speeding production, improving housekeeping, preventing waste. Eliminates slippery floors and liquid accumulation so often the cause of fire and accidents. Delivers 20 gallons per 100 back and forth strokes. Pumps oil and many other liquids. (Write for approved list.) Has hose or spout outlet. Call your dealer, your Tokheim representative, or write factory.

General Products Division

TOKHEIM CORPORATION

DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901

1656 Wabash Ave. Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland – GenPro, Inc., Shelbyville, Ind. *Factory Branch: 475 Ninth Street, San Francisco 3, California* In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.

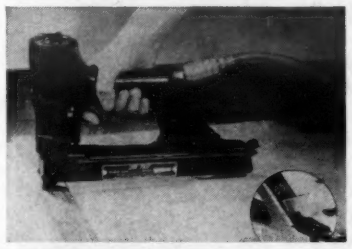
▲ For more details circle **NED-518 F** on enclosed inquiry slip ▲

METAL FLAW TESTER checks crack depth nondestructively

Depth of cracks and other flaws in forgings, castings, steel bars, and similar products is measured nondestructively with this West-German RMG crack depth gage. Operating on 110 v ac, device has two adjustable ranges of 0 to 3/16 in. and 0 to 1 in. Depth of crack is read directly on flat, round, or irregular contoured surfaces. Tester is fully portable and is housed in a durable case. • **Iroquois Tool Supply Co.,** Box 184, Tonawanda, N. Y.

▲ For more details circle **NED-520 F** on enclosed inquiry slip ▲

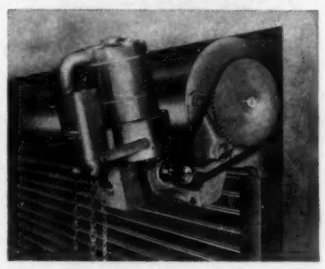
AIR-POWERED TACKER drives 5/8 to 1-in. staples



Made of magnesium, Duo-Fast Model S-6432 air tacker weighs only 3 lb and is easy to use. Operated by trigger or touch trip, it drives staples as fast as worker can operate it. Even at low air pressure it develops ample power to drive narrow crown 5/8 to 1-in. long Duo-Fast staples without recoil. It holds 168 staples and is easily loaded. Safety features include an Air-Lok and a safety trip mechanism which prevents accidental firing. • **Fastener Corp.,** 3702 River Rd., Franklin Park, Ill.

▲ For more details circle **NED-521 F** on enclosed inquiry slip ▲

ROLLING DOOR OPERATOR offered in seven sizes to suit door



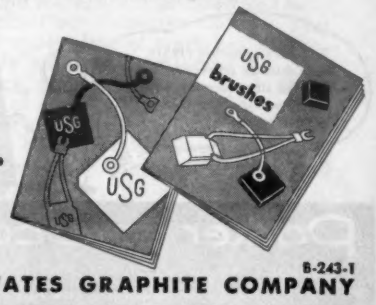
Electric motor of the Kinnear metal rolling door operator is easily disengaged when necessary without disturbing the operation of an auxiliary hand chain operator. Seven sizes have motor capacities to suit door size, and in all common current ratings. The operator is adaptable to either wall or bracket mounting in a vertical or horizontal position. It features thermal protection against overload, a centrifugal clutch, and worm gearing. Standard control is a momentary contact, three pushbutton unit for adjacent or remote mounting. Key operated, pull cord, limit switch, low voltage, instant reversing, time delay, and other types of pushbutton control are optional. • **Kinnear Mfg. Co.,** Fields Avenue, Columbus 16, Ohio.

▲ For more details circle **NED-522 F** on enclosed inquiry slip ▲

USG. BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.



B-243-1

THE UNITED STATES GRAPHITE COMPANY

DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

▲ For more details circle **NED-523 F** on enclosed inquiry slip ▲

Reduce small parts handling costs!

Built to handle a wide variety of parts—sizes and shapes—the OBE's versatility and rugged design make it a valuable asset in integrating and automating production line operations. Even and continuous flow is provided. Costly and tedious manual operations are eliminated.

Special Features Include:

- High-speed feeding of a wide range of part sizes and shapes.
- Variable discharge track height.
- Variable speed drive to meet machine demands.
- Large storage capacity.
- Automatic feed controls and special orientation devices available. Right- or left-hand discharge to suit your needs.
- Rugged construction—standard components.
- Ease of maintenance—all parts readily available.

Write for complete details on the new RCA Orienting Belt Elevator. Also ask about RCA's full line of automatic feeding equipment.

RADIO CORPORATION of AMERICA

Tmk(s)®

INDUSTRIAL AND AUTOMATION DIVISION

12605 Arnold Avenue • Detroit 39, Michigan

▲ For more details circle **NED-524 F** on enclosed inquiry slip ▲

3 NEW F series ALLIS-CHALMERS LIFT TRUCKS

with new POWER-CRATER engine

Unique crater-shaped piston head in POWER-CRATER engine, built by Allis-Chalmers, sets up violent swirling turbulence, thoroughly mixing fuel and air. Because of this proper mixing, a higher percentage of fuel is transformed into useful energy. Thus, Allis-Chalmers F series lift trucks effect substantial savings in fuel.

Outstanding Working Ability and Convenience

- Power, weight distribution to climb steep grades
- Roller channel steel masts for smooth, fast lifting
- Simple, "easy-to-turn" steering, one-lever gear shift
- Pivoted steer axle for smoother riding, positive traction
- Comfortably wide, adjustable, ventilated-cushion seat
- Familiar automotive-type controls, key starting switch
- Easy serviceability — seat tilts up for easy access to engine, clutch change in only 30 minutes, counterweight quickly removed
- Positive, safe braking — two systems: large two-directional hydraulic brake, mechanical parking brake
- Solid 2" x 5" bar-steel, heavy-duty frame — foundation for long life and dependability
- Replaceable wet cylinder liners in engine save time and money
- Optional transmissions — standard or POWER-SHIFT drive

Let your dealer show you how new F series trucks *do more, save more.* Send for new bulletin BH-144. Allis-Chalmers, Milwaukee 1, Wisconsin.

POWER-CRATER and POWER-SHIFT are Allis-Chalmers trademarks.

ALLIS-CHALMERS

POWER FOR A GROWING WORLD

▲ For more details circle **NED-519 F** on enclosed inquiry slip ▲

NOW VITON O-RINGS IN ALL A.N. (A.R.P.) STANDARD SIZES!

One of the first to embark upon a research and development program for Viton O-rings, Parker Seal Company now makes another significant advance in this versatile high temperature material by offering Viton O-rings in all A.N. or A.R.P. standard sizes. This means faster delivery and greater economy for all these popular O-ring sizes. It's another plus result of **responsible leadership** in O-ring engineering by Parker.

Parker SEAL COMPANY
Culver City, California and Cleveland, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle NED-525 F on enclosed inquiry slip ▲

How to select WORM GEAR Drives FREE TO DESIGN ENGINEERS

NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

▲ For more details circle NED-526 F on enclosed inquiry slip ▲

"Just like Rain"
RAIN JET® SPRINKLERS

COMPLETE SYSTEM FOR 50% LESS!

• Averages 3¢ a sq. ft. (Conventional system is 6¢ to 10¢.) • Three Rain Jets outperform 20 ordinary heads, install 75% faster! • Finest quality brass. Fully guaranteed. Over 1 million in use!

PATTERNS TO FIT ANY SIZE LAWN:
SQUARES UP TO 30' X 30' · CIRCLES UP TO 30' · HALF & QUARTER CIRCLES UP TO 15' · RECTANGLES UP TO 5' X 40' · STRIPS UP TO 8' X 80' · ADJUSTABLE CHORD HEADS

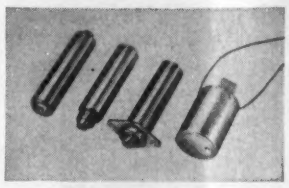
New! Rain Jet flexible polyethylene pipe. Made of DuPont Alathon Super 25—the finest quality obtainable. **New! Rain Jet quick-attach fittings.** No clamps, cement, or threading. Full flow. Leak-proof. No wrench needed ...hand-tightened. Planning service available.

Write for "How to Install" Brochure

RAIN JET CORP., 301 SO. FLOWER ST., BURBANK, CALIF.
ALSO MAKERS OF RAIN JET ROTARY SHOWER HEAD

▲ For more details circle NED-527 F on enclosed inquiry slip ▲

MINIATURE SOLENOIDS with ratings up to 125 v dc



Military requirements are exceeded by Series ME (miniature enclosed) solenoids designed for direct-current applications only in ratings up to 125 v. Four of five standard types, ranging in diameter from ½ to 1 in., are shown. Solenoids have high temperature insulation and are offered in pull and push types. Various mounting arrangements can be furnished. • **Anderson Controls, Inc.,** 9959 Pacific Ave., Franklin Park, Ill.

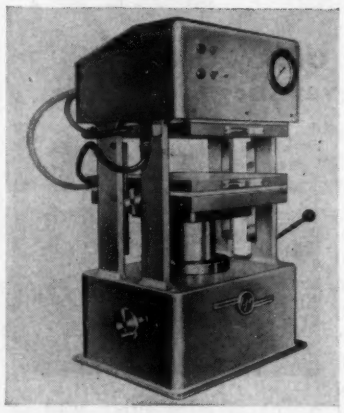
▲ For more details circle NED-528 F on enclosed inquiry slip ▲

BAND SAW BLADES for heavy feed, high speed work

Hard teeth, tough bodies, and uniform full-blade flexibility contribute to long life of ultra high speed steel metal cutting band saw blades. Developed for heavy feed, high speed production cut-off work on ferrous metals, the welded-together saws are individually packaged. All standard widths, thicknesses, and tooth spacings are available. • **Heller Tool Co.,** Newcomerstown, Ohio.

▲ For more details circle NED-529 F on enclosed inquiry slip ▲

75-TON PRESS for processing rubber and plastic



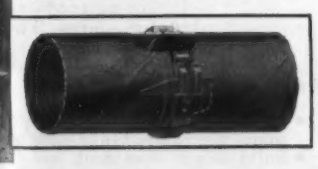
Molding, laminating, and testing of plastic and rubber materials are functions of this 75-ton hydraulic press, furnished with a 19 x 19 - in. electrically heated platen. Steam heating or water cooling are optional. The 230-v, three-phase ac Calrod heater cast into the platen is rated 4000 w and is thermo-switch controlled to 600° F. Four column welded steel frame provides precision alignment and platen self-leveling. A removable adapter allows 0 to 6 or 6 to 11-in. daylight opening between platens. Manual and motorized hydraulic pumps are available, as are optional pressure test gages, heat controls, and other accessories. • **Kingsbacher Murphy Co.,** 9830 Bellanca Ave., Los Angeles 45, Calif.

▲ For more details circle NED-530 F on enclosed inquiry slip ▲

NAYLOR... The Economical Steel Pipe

Pipe sizes from 4" to 30" in diameter in a wide range of wall thickness. NAYLOR Spiralweld steel pipe . . . easy to handle and install with built-in strength and safety. Suitable for most industrial applications.

For connecting NAYLOR pipe, all types of flanges and mechanical couplings are available in addition to the NAYLOR Wedgelock coupling illustrated. This positive coupling anchors securely to pipe ends. A hammer is the only tool required to connect or disconnect it.

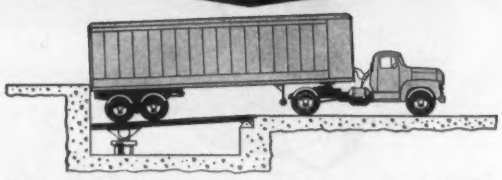


Write for Bulletin No. 59 for data on pipe, fittings and connections.

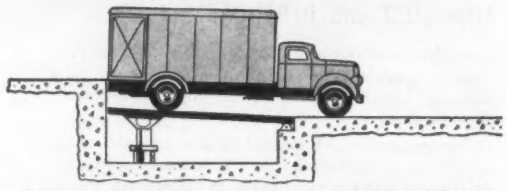
NAYLOR PIPE Company
1247 E. 92nd St., Chicago 19, Illinois
Eastern U.S. and Foreign Sales Office:
60 East 42nd Street, New York 17, N. Y.

▲ For more details circle NED-531 F on enclosed inquiry slip ▲

Rotary TRUCK LEVELER saves dock space • speeds loading



High truck beds are lowered to dock level



Low truck beds are raised to dock level

The Rotary Truck Leveler, using economical hydraulic power, handles any highway carrier at any dock. Easily installed at new or existing buildings. Write for catalog RE-800.

ROTARY LIFT CO., 1176 Kentucky, Memphis 2, Tennessee

▲ For more details circle NED-532 F on enclosed inquiry slip ▲

Thor POWER TOOLS

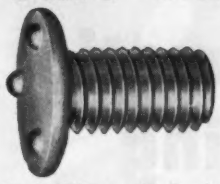
Thor

Everything you want in Torque Control... *and more!*

Thor Uni-Tork screwdrivers and nut setters make torque control of threaded fasteners as simple as turning on a light. Operator judgment and guesswork is gone. Uni-Tork snaps out of engagement when desired torque is reached, snaps in again when applied to the work. Thor Uni-Tork air tools have external torque adjustments from 10 to 100 inch-pounds. Available on all Thor air screwdrivers and nut setters and on Thor electric tools. Your Thor factory representative or distributor will show you the tools that think for themselves. Thor Power Tool Company, Aurora, Illinois. Branches in all principal cities.

▲ For more details circle NED-533 F on enclosed inquiry slip ▲

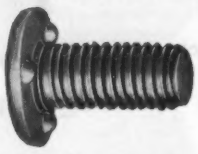
OHIO WELD SCREWS



GW SCREWS — Used where design requires a smooth unmarred surface and a fastener permanently fixed in place.

HH SCREWS — Used where a single, button-type projection is required when welding to curved surfaces, to heavy sheet 3/32" or thicker, or to ends of rods.

RW SCREWS — Used where a hermetic seal is required to prevent leakage of air, gas, water, oil or dust, or when welding to perforated metal or wires.



HW SCREWS — Used where a self-locating through bolt is required to be fixed securely in place so that it will not turn and a flush surface is required for attaching mating parts.

Thread Size 6-32 to ⅜-16

Samples and information available upon request.

The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
14 FIRST AVENUE, BEREA, OHIO

▲ For more details circle NED-534 F on enclosed inquiry slip ▲

ONE TRACTOR POWERS 30 GROUNDS MAINTENANCE TOOLS!

The versatile 6.6 HP Gravely Tractor powers a complete, year-round maintenance system!

You cut costs two ways: (1) You buy only ONE power unit—with a choice of 30 quickly interchangeable Tools; (2) The Gravely does your jobs faster, easier, more economically!

Standardize on Gravely — as many cost-conscious Plant Executives have! Gravely gives you more power at the Tool through direct, all-gear Drive. Simple, precise control, low-cost dependable power for year-round work. Tools that do your jobs more efficiently!

FREE CATALOG & CIRCULAR

Find out why and how Gravely does the job best. Write TODAY for "How to Cut Grounds Maintenance Cost" and Gravely Catalog!

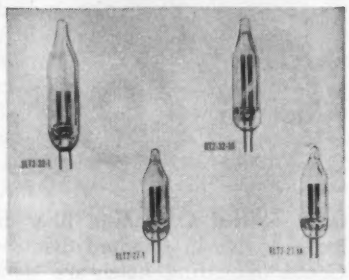
HOW TO CUT COSTS FOR GROUNDS MAINTENANCE WITH GRAVELY

GRAVELY TRACTORS, INC.
P.O. BOX 668-F DUNBAR, W. VA.

PERFORMANCE-PROVED SINCE 1922

▲ For more details circle NED-535 F on enclosed inquiry slip ▲

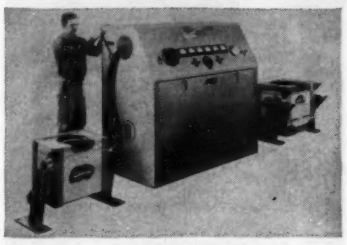
NEON LAMPS
rated 6.0 to 20.0 ma, 55-80 v dc



Four high current lamps, SLT2-32-1, RT2-32-1A, RLT2-27-1, and RLT2-27-1A, are designed for use as circuit components, switches, voltage regulators, and bright indicators. Units with R numbers contain radioactive additive for reduced dark starting effect. Lamps are rated from 6.0 to 20.0 ma at 55 to 80 v dc. Life expectancy is about 5000 hr. • **Signalite, Inc.**, Neptune, N. J.

▲ For more details circle NED-537 F on enclosed inquiry slip ▲

INDUCTION MELTING UNIT
has 100 kw motor-generator



One or two coils or furnaces with capacities up to 500 lb can be connected to this Integral 100 self-contained induction melting and heating unit powered by a 100-kw motor-generator. Console measures 72 x 66 x 35 in. and houses the power supply, capacitors, and control and safety devices. Unit contains an eight-step auto transformer and 30 steps of capacitance values. It operates on 440 v, 60 cycles and requires connection to cold water and a water drain since leads connecting console with furnaces are water cooled. • **Inductotherm Corp.**, 412 Illinois Ave., Delanco, N. J.

▲ For more details circle NED-538 F on enclosed inquiry slip ▲

CONTAINER LATCH
ultimate tension limit is 1000 lb

Reusable shipping and transit cases, large component assemblies, and steel, aluminum, and fiber containers can be equipped with the Model 46L container latch. With only five parts and no springs, it has an ultimate tension limit of 1000 lb. Latch will not spring open due to movement of container sections caused by shock, vibration, buckling, or misalignment. The drawhook is retained within the handle when the latch is open. Security wiring can be used. • **Camloc Fastener Corp.**, 22 Spring Valley Rd., Paramus, N. J.

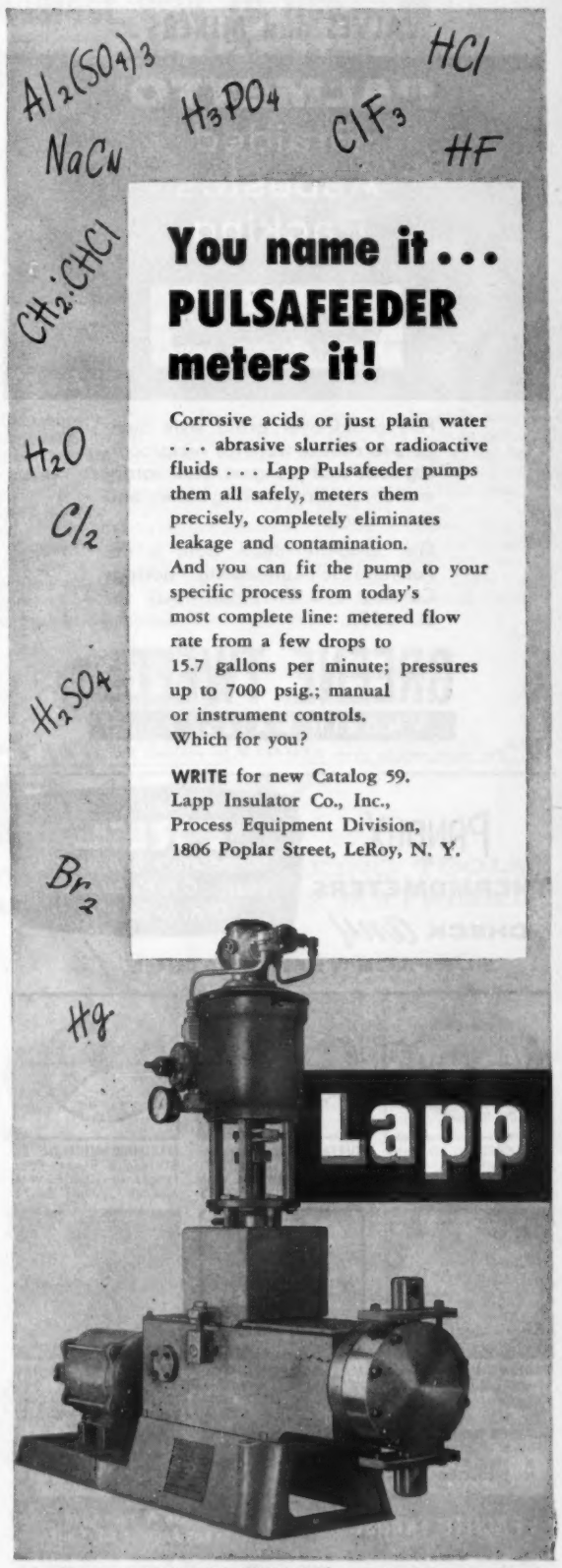
▲ For more details circle NED-539 F on enclosed inquiry slip ▲

WRITE NOW FOR THIS FREE CATALOG ON WORK HOLDING TOOLS FOR PRODUCTION, TOOLING, MAINTENANCE

Drill press vises, angle vises, swivel machine vises, rotary tables, lathe milling attachments, production vises, heavy duty angle vises, and adjustable angle plates are illustrated and fully described in the New Palmgren Catalog. This is the only complete line of work holding devices available anywhere. Designed for production, tooling, and maintenance work, there are 68 different models and types to choose from. Vise jaw sizes are from 1½" to 8". Ask for your copy of this FREE Catalog No. 205 today. The complete line with details and prices are shown.

PALMGREN PRODUCTS
by CHICAGO TOOL AND ENGINEERING CO.
8378 SOUTH CHICAGO AVE. • CHICAGO 17, ILL.

▲ For more details circle NED-540 F on enclosed inquiry slip ▲



You name it . . . PULSAFEEDER meters it!

Corrosive acids or just plain water . . . abrasive slurries or radioactive fluids . . . Lapp Pulsafeeder pumps them all safely, meters them precisely, completely eliminates leakage and contamination.
And you can fit the pump to your specific process from today's most complete line: metered flow rate from a few drops to 15.7 gallons per minute; pressures up to 7000 psig.; manual or instrument controls.
Which for you?

WRITE for new Catalog 59.
Lapp Insulator Co., Inc.,
Process Equipment Division,
1806 Poplar Street, LeRoy, N. Y.

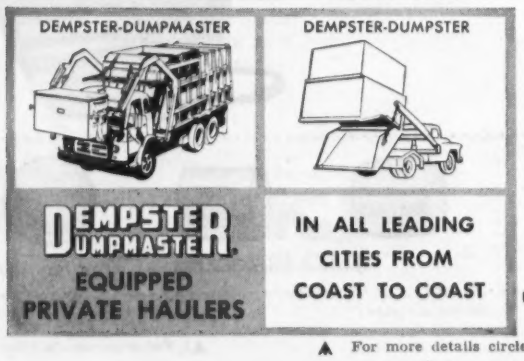
▲ For more details circle NED-541 F on enclosed inquiry slip ▲

How our small plant solved its waste disposal problem . . . WITHOUT CAPITAL OUTLAY.....

Pat. No. 2,900,096

DEMPSTER-DUMPMASTER Equipped Hauler Provides Containers and Service for Small Fee

Our small Midwestern manufacturing firm did not generate enough refuse to justify ownership of its own refuse disposal system. Yet, it was plagued by unsightly trash piles, fire hazards and scattered refuse in the plant yard.
Our plant engineer then heard of a DEMPSTER-DUMPMASTER equipped private hauler in the adjoining city. A survey revealed that two big-capacity refuse containers, placed one at each end of the plant, would handle the entire refuse accumulation.
The private hauler placed the containers, and a small monthly fee covered maintenance, labor, hauling and dumping refuse. No capital outlay was involved, disposal costs were reduced, and plant housekeeping was vastly improved.
In all major cities, private haulers who own DEMPSTER-DUMPMASTER equipment render fast, efficient, low-cost refuse storage and collection service. They place one or 100 containers at your service for a reasonable fee. A free brochure describes their service in detail.



Free Brochure and Name of Nearest Private Hauler on Request
Dept. NE6 DEMPSTER BROTHERS Knoxville 17, Tenn.

▲ For more details circle NED-536 F on enclosed inquiry slip ▲

Dependable Accuracy—Stability and Economy

BOYAR—SCHULTZ
6–18 Surface Grinders

. . . known throughout the world for exceptional performance in producing the exacting work demanded in this era of precision.

For Complete Descriptive Literature, Write:

BOYAR-SCHULTZ CORPORATION
2001 South 25th Avenue, Broadview, Illinois

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FIRST CHOICE FOR PUMPS, VALVES and MIXERS . .

PALMETTO®
Braided
Asbestos
Packing

Five braid over braid style numbers to choose from for reciprocating rods and plungers, slow rotary motion, shallow stuffing boxes, and valve stems.

Get up-to-the-minute data in the Palmetto Self-Lubricating Packings Catalog and Price List. Ask for SLP-659R.

GREENE, TWEED & CO.
NORTH WALES, PA.

▲ For more details circle NED-543 F on enclosed inquiry slip ▲

PANDUX® THERMOMETERS CHECK *any* SURFACE TEMPERATURE!

Write for **FREE** *temperature conversion chart...C to F and F to C 0°K. to 5612°F.*

SPOT-CHECK All Stainless Steel. Four ranges to 1000°F. With magnet $4.00

SURFACE Three Ranges, minus 50°F. to 370°F. Also in Centigrade. With magnet $6.75

MAXIMUM-MINIMUM All Stainless Steel. Four ranges to 1000°F. With magnet $6.75

HI-HEAT Two Built-In Magnets. 50°F. to 750°F. $6.75

MAXIMUM - MINIMUM RECORDING With replaceable Chart. Minus 50°F. to 250°F. $19.50

SURFACE PYROMETER 10" Surface Tip. Two ranges to 2300°F. Complete $57.00

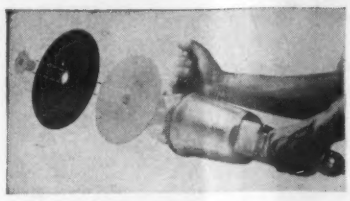
OTHER PANDUX THERMOMETERS: Stainless Steel Stem Dial Type regular and with maximum-minimum hands; Glass Mercury Immersion Types for production and laboratory.

Order through your dealer or write factory for complete catalog ND-660 Phone GRanite 8-1134

PACIFIC TRANSDUCER CORP. 11836 W. Pico Blvd. Los Angeles 64, Calif.

▲ For more details circle NED-544 F on enclosed inquiry slip ▲

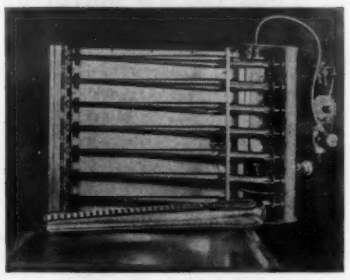
ABRASIVE DISCS
feature strong center holes



Intra - oscillation scratch patterns caused by forcing abrasive discs onto out-of-round grinder spindles are eliminated by strengthened disc center holes of Red Coat resin fiber discs. Improved discs are available in standard diameters from 5 to 9⅛ in. Center mounting holes are standard ½ and ⅞ in. Discs are made with aluminum oxide abrasive in grit sizes of 150 and coarser. Full or spaced coating is optional in 36-grit and coarser discs. • **Michigan Abrasive Co.**, 11900 E. Eight Mile Rd., Detroit 5, Mich.

▲ For more details circle NED-545 F on enclosed inquiry slip ▲

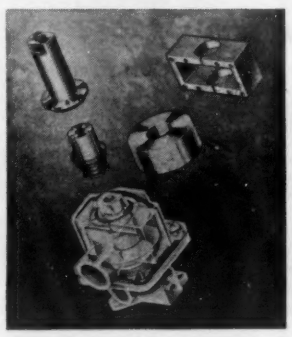
STAINLESS STEEL BURNER
featured in gas-fired duct furnaces



All types of gases with heating values from 500 to 3200 Btu/cu ft can be used in this stainless steel burner, introduced in the DS series of gas-fired duct furnaces. Universal unit features formed port burners with integral carryover. Its straight-line shape provides minimum turbulence or restriction and affords a high primary aeration coefficient. Tubular, resistance welded burner has high resistance to distortion and corrosion. • **Reznor Mfg. Co.**, Mercer, Pa.

▲ For more details circle NED-546 F on enclosed inquiry slip ▲

THREE-WAY CONTROL VALVE
solenoid operated for 250-psi use



Typical applications of this large capacity three-way directional control valve include machine tool automation, automatic inching or braking, packaging, medium and large cylinder control, and pressurized mechanisms. Made in 3/32, ⅛, and 5/32-in. orifice sizes, it is suited for air, oil, and inert gas service at pressures from 5 microns vacuum to 250 psi. Solenoids are built to UL standards, bodies are diecast zinc, internal parts are stainless, and synthetic inserts give bubbletight sealing. • **Skinner Chuck Co.**, Skinner Electric Valve Div., Dept. DCA-166, 105 Edgewood Ave., New Britain, Conn.

▲ For more details circle NED-547 F on enclosed inquiry slip ▲

NEW JUNIOR SIZE VIBRA-WASHER

GIVES YOU AUTOMATIC PROCESSING OF METAL PARTS

LABOR SAVING
READILY ADAPTABLE TO MANY OPERATIONS
NO NESTING OF PARTS DURING CLEANING OR CONDITIONING CYCLE
ADJUSTABLE CAPACITIES
ELECTRIC—GAS—STEAM HEATING ELEMENTS

The new Simplicity Junior Size Vibra-Washer employs a vibrating work carrier that automatically conveys metal parts through a cleaning or conditioning bath. It cleans so thoroughly that chips, oil and grease are removed from even blind or slotted openings; cleans so gently even the most delicate threads or flanges are not harmed.

If you have a tough cleaning or conditioning job, Simplicity Engineering Company can help. For information, write or call the Industrial Washer Division.

223

Simplicity TRADE MARK REGISTERED
ENGINEERING COMPANY • DURAND 15, MICH.
FOR CANADA: Simplicity Materials Handling Limited, Guelph, Ontario

▲ For more details circle NED-548 F on enclosed inquiry slip ▲

work·O·matic handling system

offers you increased production at lower cost

Get the complete story on this cost-cutting material handling system by contacting The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

▲ For more details circle NED-54

NOW! *Fuses that*

Safely interrupt fault currents up to 200,000 amperes . . .

Limit fault current to very low values

Hold 500% load for minimum of ten seconds

Buss Low-Peak fuses can completely revolutionize the protection of the entire electrical system.

Protect Circuits, Motors, Controllers, Switches whether fault current is 1,000 amps, 100,000 or 200,000 amps.

Prevent damage to Panelboards, Controllers or other circuit components. Let-thru fault currents are limited exceptionally low values.

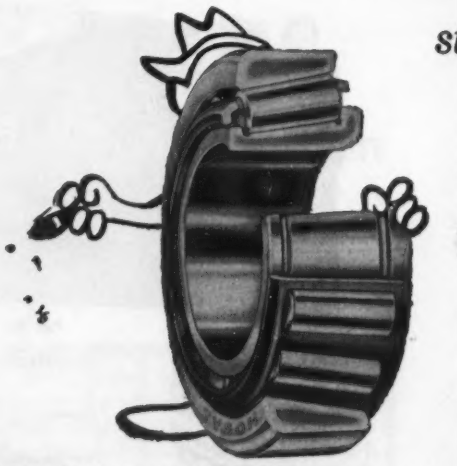
Prevent waste of time a money—because long tim lag keeps them from openi needlessly on harmle overloads.

Permit increasing int rupting capacity and curre limitation on present syst at minimum cost.

▲ For more details circle NED-55

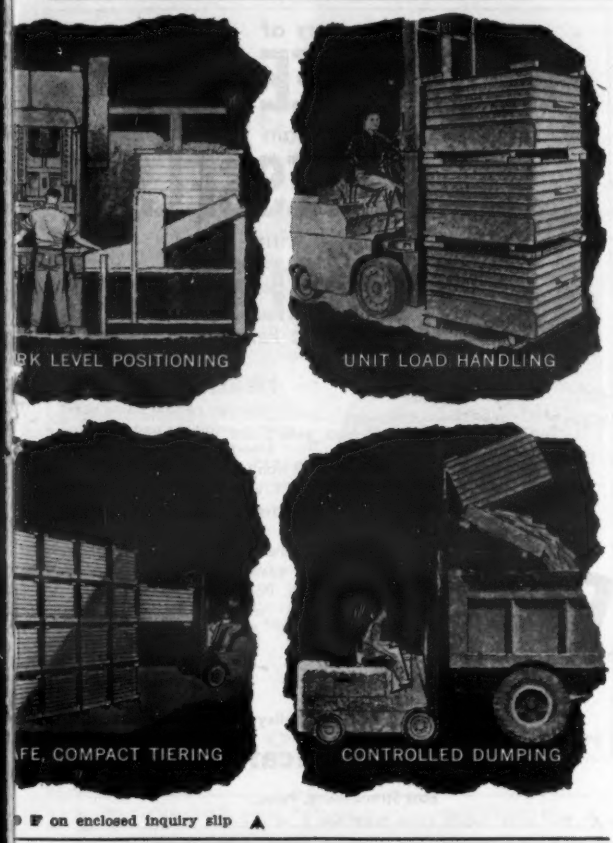
The Authorized **SKF**

st



Spherical, Cylindrical, Ball, and "Tyson" Tapered Roller Be

▲ For more details circle NED-5



F on enclosed inquiry slip ▲

BUSS
Low-Peak
FUSES

BUSS Low-Peak Fuses fit standard Switches and Panelboards—are available in N.E.C. sizes from 15 to 600 amps. sizes in both 250 and 600 volt ranges.
Write now for BUSS Low-Peak bulletin.
BUSSMANN MFG. DIVISION
McGraw-Edison Co.
University at Jefferson, St. Louis 7, Mo.

0 F on enclosed inquiry slip ▲

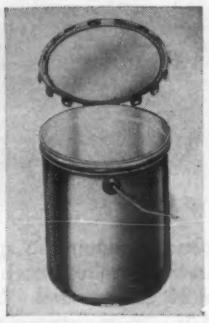
Bearing Distributor
ands behind every
bearing he delivers

He backs up his complete line of SKF bearings with on-the-spot service—and specialized experience with all types of bearing selection, installation and maintenance problems. To make sure your bearings run smoothly, just call him today.
7834

EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
*rings
*REG. U. S. PAT. OFF.

51 F on enclosed inquiry slip ▲

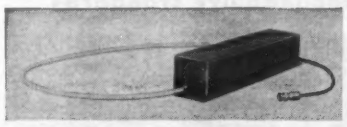
STEEL PAILS
have planished side seams



Continuous, flat, smooth surface throughout the interior of Hi-Bake lined steel pails is provided by planishing the side seam. Possibility of pinholing and the resulting start of corrosion is minimized with the flattened and smoothed side seam. There are no sharp seam edges to damage the pail lining. Smooth curl surface assures a good seal between pail and cover. Photo shows 5-gal pail with planished side seam. • **Bennett Industries, Inc.**, Peotone, Ill.

▲ For more details circle NED-552 F on enclosed inquiry slip ▲

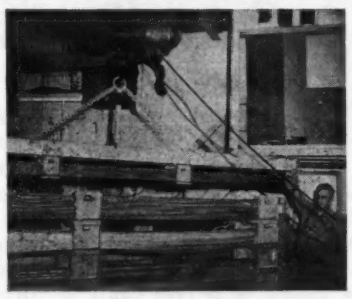
IMMERSIBLE TRANSDUCERS
ultrasonic units made in three sizes



Ultrasonic cleaning stages can be added to existing tanks and vapor degreasers by using these immersible transducers. Designed for use with most cleaning solutions, solvents, detergents, mild acids, and caustics at temperatures to 180° F, they have Type 304 stainless steel cases and Heliarc welded seams. End fitting type transducers have a flexible immersible cable for placement anywhere in the cleaning tank. Sizes with inputs of 60, 125, and 250 w can be used individually or in combination. Bulkhead types with the same inputs are designed for permanent mounting. Barium titanate ceramic transducer elements operate at 38,000 cps. • **National Ultrasonic Corp.**, 111 Montgomery Ave., Irvington 11, N. J.

▲ For more details circle NED-553 F on enclosed inquiry slip ▲

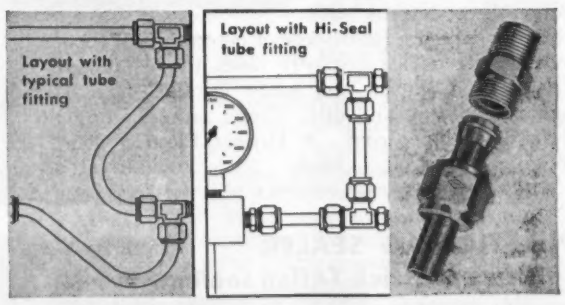
BAR STOCK HANDLING SYSTEM
also stores 2000-lb 12-ft lengths



Bar-Stak system for storing and handling screw machine stock requires one grab, four cradles, and two end pieces for each lift. Locator frame for positioning cradles where required for pick-up and placement is optional. The system is based on handling standard 12-ft lengths in 2000-lb lifts with savings in space and safety in operation. Standard cradles allow inside clearance of 10 x 6 in. and have over-all dimensions of 12⅜ x 7 x 6¼ in. Grab includes coil chain, crane hook, and mechanism for engaging cradles. • **Hartman Metal Fabricators, Inc.**, 133 Murray St., Rochester 6, N. Y.

▲ For more details circle NED-554 F on enclosed inquiry slip ▲

SAVE time and money in tubing circuits



Imperial Hi-Seal butt-joint tube fittings save space, tubing; eliminate many bends

The sections of tubing layout shown above indicate how Imperial Hi-Seal fittings make possible more compact circuits, save as much as 66⅔% in installation time. Hi-Seal fittings make a positive butt joint — withstand high pressures. The tubing need not be sprung. And assembly is fast and foolproof. You can *see* when a Hi-Seal joint is tight — no danger of over-torqueing. Hi-Seal fittings stay pressure tight beyond the burst strength of the tube itself. Available in steel, stainless, aluminum and brass for ⅛" to 1½" O.D. tubing.
Write for Catalog 3108, or call your industrial supply house.

IMPERIAL
THE IMPERIAL BRASS MFG. CO.
6300 West Howard Street NED-60
Chicago 48, Illinois 19-60

▲ For more details circle NED-555 F on enclosed inquiry slip ▲

WEAR RESISTANT
THOMSON
AVOID the HIGH COST and difficulty of fabricating long, hard & straight parts by conventional methods...
60 Case
hardened and ground
SHAFTS, ROLLS, GUIDE RODS and other long-round parts
ELIMINATE WEAR and REDUCE COST

ADVANTAGES of 60 Case
- COST REDUCTION
- HARD BEARING SURFACE
- NICK- & DENT-PROOF
- ACCURATE DIAMETERS
- GROUND FINISH
- STRAIGHT PARTS
- DELIVERY FROM STOCK
- ADDED STRENGTH
- UNIFORM HIGH QUALITY

60 Case material has a Rockwell 60C surface hardness which is essential to reduce wear.
Big savings are offered over conventional methods which are plagued with erratic warpage, straightening and resultant grinding problems. Finished *60 Case* parts frequently cost less than the scrap losses that result from conventional methods.
Stocked in ¼" to 4" diameters. Available with or without special machining. *Write for literature and name of your local representative.*

TYPICAL 60 Case PARTS
GUIDE RODS, SHAFTING, ROLLS, TRAVERSE RAILS, PISTON RODS, ARBORS, LEADER PINS, TIE RODS, KING PINS, AXLES, CONTROL RODS, GUIDE POSTS, MANDRELS, BEARING ROLLERS, SPINDLES

For emergency needs call collect MAnhasset 7-1800
THOMSON INDUSTRIES, Inc.
Dept. C2, Manhasset, New York

PARTS HARDENED to 60 C....increase life...reduce cost!

▲ For more details circle NED-556 F on enclosed inquiry slip ▲

Easiest Way To Use Epoxy Resin Adhesives

... Fenwal's new custom designed Adhesive Pack
(Pat. applied for)

Saves time — mixture is exactly proportioned to give you better bonding and strength. No time wasted in measuring.
Reduces waste — packs available with formulations and amounts *tailored* to your work requirements.

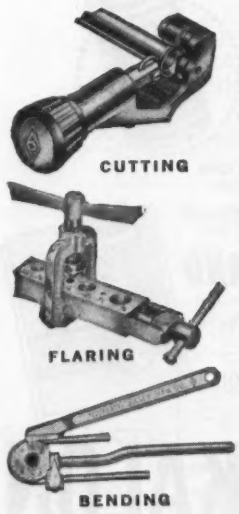
Try it yourself! Send for a sample pack today — ONLY $1.00

This handy Adhesive Pack permits you to mix resin and curing agent without exposure to air or skin. The resin is contained in a sturdy, clear, plastic Pack. The curing agent is hermetically sealed in an attached collapsible tube. Until you use the Pack, the resin and agent are kept separate; then your mixing is done within the plastic bag. Shelf life is one year.
Available in virtually all formulations and de-gassed Packs . . . custom-made to your specifications, Fenwal Adhesive Packs are quick, safe, easy, and economical. Send for your sample Pack today — only $1.00 or write for a free folder to Adhesives Pack Department, Fenwal Incorporated, 276 Pleasant St., Ashland, Massachusetts.

Fenwal Controls Temperature ... *Precisely*

▲ For more details circle NED-557 F on enclosed inquiry slip ▲

EASY
TO USE TUBE WORKING TOOLS
SAVE TIME • SAVE MATERIAL



Imperial Hi-Duty Tube Cutter
Free-wheeling, ball-bearing action. Roller-type with flare cut-off groove. Retractable reamer, spare cutting wheel. The 274-FA (shown) for ⅛ to 1⅛" O.D. Other models for sizes to 2¼" O.D.

Imperial Rol-Air Flaring Tool
Rolls flares in the air, automatically burnishes them to high polish. Assures tight joints. The 500-F (shown) flares 3/16 to 5/8" O.D. tubing. Other models for 37°, 45°, and double flares in sizes to 2" O.D.

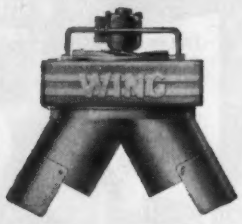
Imperial Blue Dot Bender
Bend hard or soft tubing to accurate dimensions with short radius — any angle to 180°. Position anywhere on tubing. Benders for 3/16 to 7/8" O.D. tubing. Combination benders for 1/4 to 7/8" O.D. and gear-type benders.

Also tools for reaming, swaging, pinch-off, refacing. For information on Imperial's complete line, write today for Catalog 3088 or see your industrial supply house.

IMPERIAL
The Imperial Brass Manufacturing Company
6300 W. Howard Street
Dept. NED-60, Chicago 48, Ill.

▲ For more details circle NED-558 F on enclosed inquiry slip ▲

ONLY WING REVOLVING HEATERS



Offer All These Advantages

- **No Hot Blasts and Cold Spots:** The slowly revolving Wing discharges gently spread warm air over the area to be heated. The air flow cannot be blocked by obstructions.
- **Fewer Wing Heaters are Needed:** Wing Revolving Heaters cover larger areas—up to 125′ x 125′.
- **Mounting Heights From 8′ to 60′ and over.**
- Easy Installation, Minimum Maintenance, Economical.
- For Steam, Hot Water, Gas — Capacities up to 1,209,000 Btu/hr.

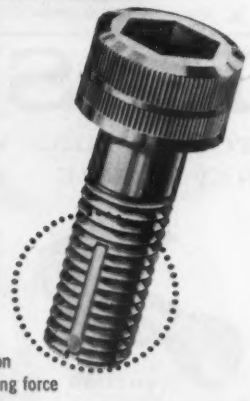
Write for Bulletin

WING L. J. WING MFG. CO. DIVISION OF AERO SUPPLY MFG. CO. INC.
140 Vreeland Mills Road, Linden, New Jersey
Factories: Linden, N. J. and Montreal, Canada

▲ For more details circle NED-559 F on enclosed inquiry slip ▲

PARKER-KALON... The most complete line of socket screws—the quality line of socket screws—now introduces the newest line of socket screws!

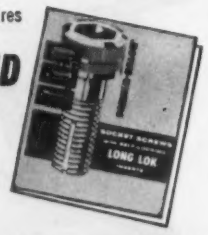
NEW PARKER-KALON® SOCKET SCREWS *with* LONG-LOK® INSERTS!



YOUR OWN TESTS WILL PROVE THESE OUTSTANDING QUALITIES

- Higher resistance to shock and vibration
- Superior thread engagement and locking force
- Higher percentage of reusability
- Eliminates need for lock washers or safety wires

GET FREE SAMPLES AND TECHNICAL DATA from your P-K industrial distributor—or write directly to Parker-Kalon for Bulletin No. 862

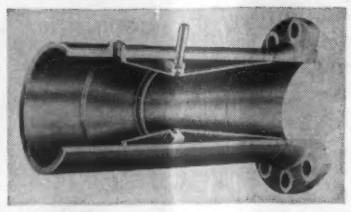


PARKER-KALON

a division of General American Transportation Corporation, Clifton, New Jersey. Offices and Warehouses in Chicago and Los Angeles.

▲ For more details circle NED-560 F on enclosed inquiry slip ▲

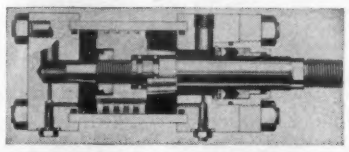
FLOW TUBES
for metering gases, process fluids



Weldment-type Dall flow tubes for metering petroleum, chemicals, gases, or other process fluids at low or high pressure and temperatures are offered in various metals, depending upon the specific application. Metals in the form of rolled steel plate, castings, forgings, and bar stock can be used. Intermediate and larger tubes from 8 in. up are strong weldments of rolled or forged sections. Sizes range from 1 to 120 in. • **B-I-F Industries, Inc.**, 345 Harris Ave., Providence 1, R. I.

▲ For more details circle NED-561 F on enclosed inquiry slip ▲

HYDRAULIC CYLINDERS
meet interchangeability standards



Cartridge rod bearing incorporating a metal rod scraper plus a rubber rod wiper protect SQuareline hydraulic cylinders against chips and dirt. The Meehanite bearing is easily removed and has spring-loaded multiple V-packings that compensate for wear. Cylinders meet JIC standard for interchangeability. A self-centering floating cushion compensates for high side loads which might cause rod bearing wear. The cushion needle and ball check are flush mounted and interchangeable. • **Carter Controls, Inc.**, 2876 Bernice Rd., Lansing, Ill.

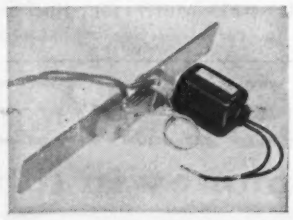
▲ For more details circle NED-562 F on enclosed inquiry slip ▲

LOCKING WING NUTS
available in ten thread sizes

Loosening under impact, vibration, or stress reversal, whether fully seated or positioned anywhere on a bolt or stud, is prevented by the nylon locking collar of these self-locking wing nuts. They are made of Zamak 3 diecast alloy and are available in No. 8 and 10, and 1/4, 5/16, and 3/8-in. sizes, in both coarse and fine threads. Wear resistance of nylon makes for re-usability of the finger-tightened nuts. • **Elastic Stop Nut Corp. of America**, 2330 Vauxhall Rd., Union, N. J.

▲ For more details circle NED-563 F on enclosed inquiry slip ▲

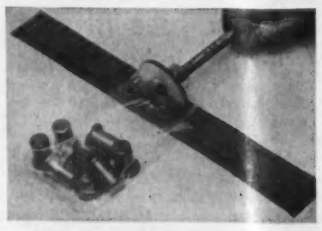
OVERLOAD TRIP
protects industrial rectifiers



Mounted directly on any size 50-mv shunt and interlocked with the magnetic starter or other remote operated disconnect, Instatrip overload tripping device is usable with plating or industrial rectifiers. When direct current loads reach or exceed a factory preset percentage of the shunt rating, the device instantly takes the equipment off the line. Compact and easily installed, it is sealed against moisture and dirt. Preset ratings are 80, 100, 110, or 120 per cent. • **Dresser Electric Co.**, 2705 Wight St., Detroit 7, Mich.

▲ For more details circle NED-564 F on enclosed inquiry slip ▲

PLASTIC BAG SEALER
has nonstick Teflon sealing wheel



Requiring no set-up time, the Plasti-Form plastic bag sealer will rapidly seal all sizes individually or in small production runs. Its nonstick Teflon covered sealing wheel is heated to 350° F by a 110/120-v ac 50-w heater. Wheel is lubricated with a high temperature fluid for free turning. Including rubber back-up mat and wire stand, the sealer sells for $9.95. • **Era Engineering, Inc.**, 1009 Montana Ave., Santa Monica, Calif.

▲ For more details circle NED-565 F on enclosed inquiry slip ▲

add years of RUST-FREE LIFE to your plain STEEL VESSELS— line them with PRE-KRETE hydraulic cement formula

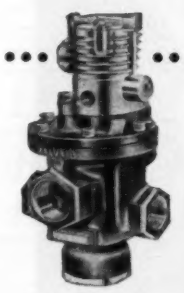
PRE-KRETE is the corrosion resistant cement lining with special additives and intimate blending of all ingredients. It won't permit corrosion, won't crack, won't chip, won't color or flavor water. It adds years of rust-free life to plain steel vessels. It lowers maintenance costs appreciably. Available from a nation wide network of franchised applicators. Send for FREE booklet on PRE-KRETE. Address —

Division of The Patterson-Kelley Co., Inc.

pocono fabricators inc.
East Stroudsburg, Penn.

▲ For more details circle NED-566 F on enclosed inquiry slip ▲

split-second response . . . more work per hour . . . with VALVAIR® HI-SPEED INLINE VALVES



HI-SPEED INLINE with integral pilot, 2 or 3-way, N.O. or N.C., 3/8 to 1 1/4 in. NPT.

- solenoid coil guaranteed against burn-out for life of valve
- instant-action control • air-cushioned poppet
- multi-million cycle dependability • JIC pilot

Short poppet travel in Valvair's HI-SPEED INLINE provides maximum flow almost instantaneously. This shortens machine cycle time . . . lessens brake and clutch slip . . . provides more accurate cuts on high speed cut-offs . . . decreases set-up time . . . minimizes drift, for safer operation.

For increased production . . . lower costs . . . greater safety . . . specify Valvair HI-SPEED INLINE valves.

Write for free Bulletin HIN, Address: Bellows-Valvair, Akron 9, Ohio, Dept. NED-660.

8006-3

Bellows-Valvair
The Bellows Co. • Valvair Corp. Akron 9, Ohio
DIVISIONS OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

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DRILL HOLES UP TO 1½″ DIA. IN MASONRY—SAVE UP TO 70% WITH NEWEST LOW-COST TRUCO® HAND KIT AND FAMOUS TRUCO DIAMOND BITS

Handy little kit weighs only 17½ lbs. and easily saves its cost on your first job. Drills concrete (but not rods), brick, marble, terrazzo, all tiles like crazy; wonderful for anchor holes. Every maintenance crew needs one. Accessories available.

Write for Distributor's name and literature

TRUCO MASONRY DRILLING DIVISION
WHEEL TRUEING TOOL COMPANY
TRUCO 128-3200 W. Davison, Detroit 38, Mich.
575 Langlois, Windsor, Ont.
HALF-A-CENTURY OF INDUSTRIAL DIAMONDS

Write for New Catalog

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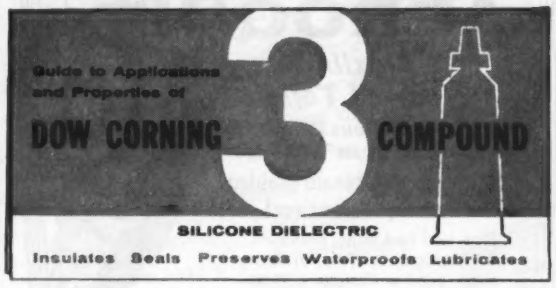
Free... new guide to MAINTENANCE and DESIGN Savings



. . . the silicone dielectric that's ideal for potting, filling, coating, sealing . . . countless applications. Dow Corning 3 Compound retains its grease-like consistency from −40 to over 400 F. Prevents corrosion and electrical leakage . . . stops shorts, grounds, arcs on switches, plugs, cable connectors, battery terminals. Free sample on request. Write dept. 5806.

first in silicones **Dow Corning CORPORATION** MIDLAND, MICHIGAN

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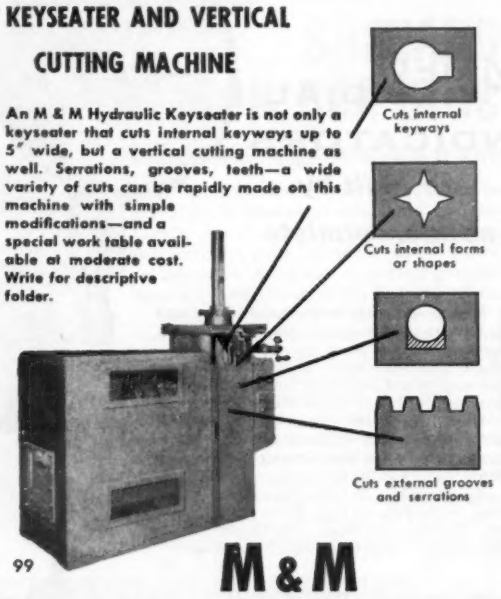
TRIPLE THE USEFULNESS OF YOUR M&M KEYSEATER AND VERTICAL CUTTING MACHINE

An M & M Hydraulic Keyseater is not only a keyseater that cuts internal keyways up to 5" wide, but a vertical cutting machine as well. Serrations, grooves, teeth—a wide variety of cuts can be rapidly made on this machine with simple modifications—and a special work table available at moderate cost. Write for descriptive folder.



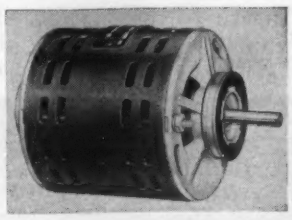
99 **M&M**

KEYSEATERS AND VERTICAL CUTTING MACHINES

MITTS & MERRILL • 1000 So. Water St. • SAGINAW, MICH.

▲ For more details circle NED-570 F on enclosed inquiry slip ▲

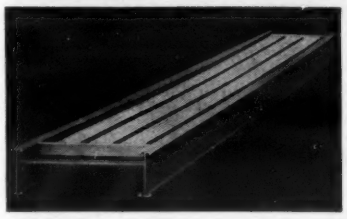
SMALL AC MOTORS for blowers, fans, small tools



Sixteen ratings between 1/100 and ⅓ hp, based on open ventilated operation, 40° C rise, constant speed, and continuous duty at 115 v, 60 cycles, are offered in this line of small, Mylar insulated motors. They are suited for office appliances, blowers, fans, and small tools. Choice of four frame sizes; resilient or rigid mounting; two, four, or six-pole speeds; and capacitor-start induction-run, split phase, permanent split capacitor, or polyphase design are provided. Fans are cast integrally with the rotor. Double-sealed ball bearings or self-aligning porous bronze sleeve bearings with felt lubricated packing are available. • **Robbins & Myers, Inc.,** Fractional Horsepower Motor Div., 1345 Lagonda Ave., Springfield 99, Ohio.

▲ For more details circle NED-572 F on enclosed inquiry slip ▲

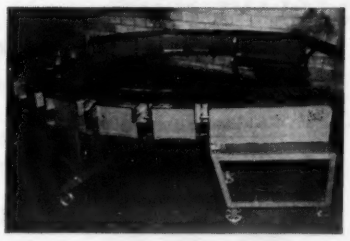
SAFETY PLANK & STAGE made of lightweight aluminum



Safety, weather and moisture resistance, and low cost are features of Louisville Colonel line of planks and swing stages. They are made of aluminum with Oval-Lok rung-to-rail construction and Sure Foot decking. One and two-man models are offered in 1000 and 1600-lb capacities, 12 and 20-in. widths, and 6 to 24-ft lengths. Prices start at $21. • **Louisville Ladder Co.,** 1101 W. Oak St., Louisville 10, Ky.

▲ For more details circle NED-573 F on enclosed inquiry slip ▲

CURVED LOADING CONVEYOR sections added to give any length



By adding 18-in. long center cars to the belt drive car and end car, any length can be achieved in the Flex-Bend loading or unloading conveyor. It has a hinged receiving plate and will bend horizontally on a 5 or 6-ft inside belt radius. Flexible belt, made of 6-gage carbon steel wire, is offered in 12 and 18 in. widths and runs 42 in. above floor. Optional extras include power traveler attachments added to either or both ends, a pushbutton power bag stacker, and belt reversing device. • **R. T. Sheehan Co.,** Box 345, Plymouth, Mich.

▲ For more details circle NED-574 F on enclosed inquiry slip ▲

▲ For more details circle NED-575 F on enclosed inquiry slip ▲

WE CONSIDERED

SAFETY (SAFETY) FIRST

When We Purchased

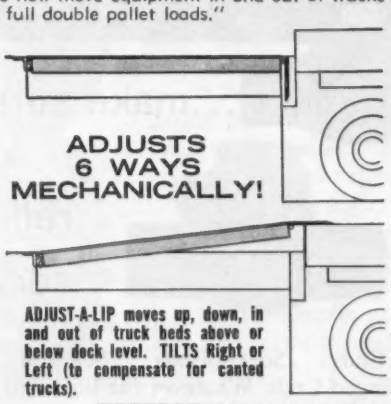
KELLEY ADJUST-A-LIP DOCKBOARDS!

A double pallet with 1600 lbs. is safely loaded in canted truck at Klenzade. No chance to spill load or equipment.

"We have not had a dockboard accident since installing Kelley Adjust-A-Lip Dockboards, **reports Richard Shogren, Work Manager of Klenzade Products, Inc., Beloit, Wisconsin,** leading manufacturer of sanitation chemicals. "Using old type dock plates, we had everything from strained backs to smashed toes and fingers, plus extensive insurance costs and claims.

'If these dockboards save us from a single injury in ten years they are well worth the investment.

"Our crews go out of their way to use Kelley dockboards. The 6-way tilt feature is ideal for our setup. It helped us when packed snow created uneven driveway surfaces and tilted trucks. We now move equipment in and out of trucks safely — even with full double pallet loads."



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Tear out and attach this coupon to your letterhead. Sign your name and mail to:

HI-LO Adjustable DOCKBOARDS **KELLEY COMPANY INC.** 2153 W. MILL ROAD MILWAUKEE 9, WISCONSIN

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JOHNSON MODEL J . . . A big, rugged saw that cuts anything—anywhere! 10" rounds, 18" flats, heavy structurals and odd shapes. Available in wet or dry cutting models, variable speed drive and optional equipment.

JOHNSON MODEL B . . . Also available in wet or dry, metal cutting models, variable speed drive. Will easily handle 5" rounds, 10" flats, odd and irregular shapes.

JOHNSON ADJUSTABLE STOCK STAND . . . A necessity for operational safety and production efficiency. Solidly built, easily adjusted even under load. Practical and inexpensive.

JOHNSON "MOBILE" MODEL M . . . Same husky capacity as Model B, but wheel-mounted for fast, easy maneuverability indoors or out. Has self-contained handle, power line, tool box and accessories.

Only Johnson offers *all* of the outstanding construction features and performance advantages—*at a lower initial price.*

Why pay more when you can have the best for less? Compare Johnson saws with others costing hundreds more, and you'll find that *only* Johnson delivers the life-long, maintenance-free efficiency you've always wanted.

Immediately available in five high capacity models to meet any metal cutting requirement—efficiently and economically.

Write Today...for your copy of the big, new Johnson catalog. Illustrates and describes all models and accessories.

Johnson METAL CUTTING BAND SAWS
Albion, Michigan

- **Eastern Distributor** R. J. R. Kelly Co. Hale Bldg., 51 Main St. East Orange, N. J.
- **Mid-Western Distributor** W. Q. Lundmark 75 N. Broadway Des Plaines, Ill.
- **Western Distributor** Hastings Distributors 1605 Solano Avenue Berkeley, Calif.

▲ For more details circle NED-571 F on enclosed inquiry slip ▲

Specify the **T-J Spacemaker**

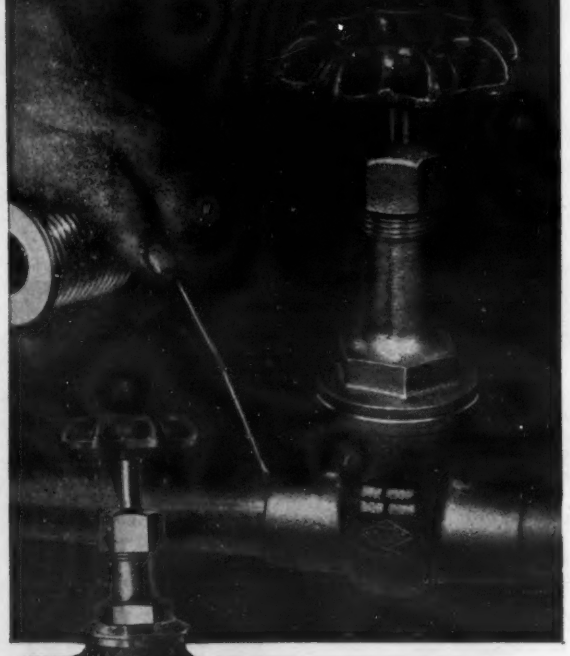
for longer, more efficient cylinder service

1. METAL PISTON ROD SCRAPER—protects rod packing, cylinder bore and rod surface by removing all foreign particles.
2. NEW "SUPER" CUSHION for air or METALLIC SELF-ALIGNING MASTER CUSHION for oil.
3. HARD CHROME PLATED CYLINDER BORES AND PISTON RODS for greater protection and reduced wear.
4. ONE PIECE PISTON assures better alignment, longer bearing and packing life.
5. FORGED SOLID STEEL HEADS throughout entire line.
6. PILOTED PACKING GLAND with extra long bearing for additional strength and support to piston rod.
7. NO TIE-RODS TO STRETCH—gives you 360° port rotation . . . less space used . . . full strength.
8. STREAMLINED DESIGN . . . operating pressures to 200 PSI, air; 1,000 PSI oil, non-shock.

Write for Bulletin SM 155-4. • The Tomkins-Johnson Co., Jackson, Mich.

▲ For more details circle NED-577 F on enclosed inquiry slip ▲

Look for this... JENKINS on SOLDER END Valves, too



...make sure of long, reliable service

Solder Ends . . . Socket Ends . . . Screwed Ends . . . Flanged Ends. Whatever the lines call for, you can have the known assurance of quality and economy for which the Jenkins Diamond trade-mark stands. ASK your Jenkins Distributor, or write us for Folder 198-A about Jenkins Solder End Valves — Globes, Gates and Checks — that cover all your needs. Jenkins Bros., 100 Park Ave., New York 17.

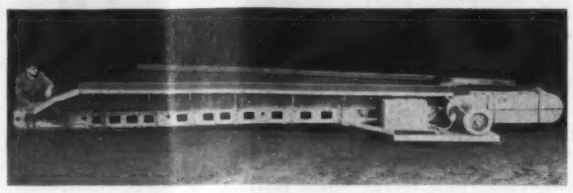
JENKINS VALVES

Sold Through Leading Distributors Everywhere

▲ For more details circle NED-578 F on enclosed inquiry slip ▲

CHAIN FLIGHT CONVEYOR meters loads to belt conveyors

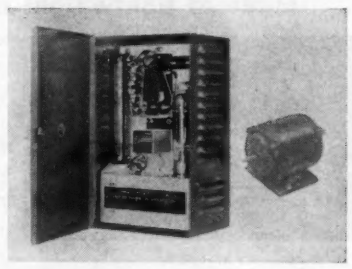
Though originally developed for coal mining use in low-headroom applications, this Ratio-Feeder is a chain flight conveyor that has many other applications in



various industries. It takes material from cars or chutes, and then meters it at a controlled rate to belt conveyors or other equipment. Two models have 24 and 30-in. overall heights, with storage capacities of 2¼ to 3½ tons. Choice of drives is offered. • **Columbus McKinnon Chain Corp.**, Mining Equipment Div., Tonawanda, N. Y.

▲ For more details circle NED-579 F on enclosed inquiry slip ▲

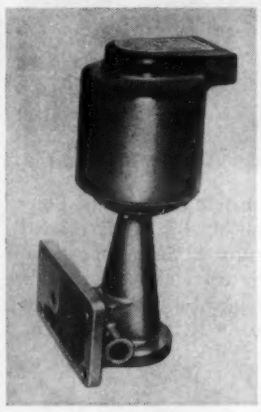
ADJUSTABLE SPEED DRIVES in ratings from 1/40 to 3 hp



Easily controlled and programmed line of adjustable speed drives assures 1 to 2 per cent regulation to automatically driven machine tools and special purpose machinery. Sensitive static feedback control can be reset automatically to follow an unlimited number of input signals to change speed or mode of operation. Drives can be provided to receive manual, mechanical, electrical, or electronic control signals, as well as inputs originating from punched tape. Ratings range from 1/40 to 3 hp. • **Electronic Controls Inc.**, ECI Mfg. Div., 85 Magee Ave., Stamford, Conn.

▲ For more details circle NED-580 F on enclosed inquiry slip ▲

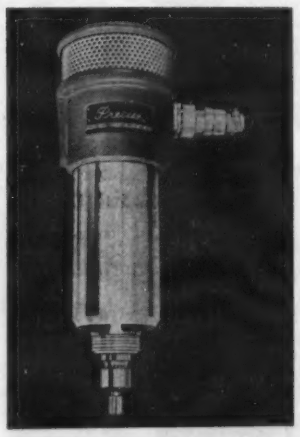
COOLANT PUMP for use with shallow reservoirs



Flange-mounted Model 9-P3 Gusher coolant pump has one internal and two external discharges, right hand and left hand, respectively. Designed for machinery having comparatively shallow reservoirs, it will continue to pump until the liquid level is at the extreme bottom of the inlet port. This minimizes air leaking, even with frothing liquids. The 1/10-hp, prelubricated, ball bearing motor is connected to the pump by a balanced shaft. Pump develops a maximum pressure of 10 psi; capacity is 4 gpm at 9 psi and 27 gpm at 1 psi. • **Ruthman Machinery Co.**, 1800 Reading Rd., Cincinnati 2, Ohio.

▲ For more details circle NED-581 F on enclosed inquiry slip ▲

POWER QUILLS run at up to 54,000 rpm at 2 hp



Speeds remain constant under load for Super Cycle power quills available in ¾-hp Model 65, 1½-hp Model 70, and 2-hp Model 80. Depending upon generator used, these models have speed ranges from 14,400 to 54,000 rpm, 7200 to 39,600 rpm, and 7200 to 21,600 rpm, respectively. They use collets with respective capacities of ¼, ⅜, and ½-in. Also developed in a matching program are self-contained portable high frequency converters which can be connected anywhere 220 or 440-v 60-cycle power is available. These comprise single and four-speed models, plus variable speed units which provide constant load speeds from 12,000 to 60,000 rpm. • **Precise Products Corp.**, 3715 Blue River Rd., Racine, Wis.

▲ For more details circle NED-582 F on enclosed inquiry slip ▲

FLEXING? HEAT? PRESSURE?

AEROQUIP

*Flexible Hose of Teflon and Reusable "super gem" Fittings**

Whatever your steam problem here's your answer!

When you find heat, pressure or flexing cuts life of ordinary hose, get our bulletin IEB-50—or look in "Yellow Pages" under "Hose" for your Aeroquip Distributor.

*U.S. Patent Nos. 2,833,567 and 2,731,279
"super gem" is an Aeroquip Trademark
Teflon is DuPont's trade name for its tetrafluoroethylene resin

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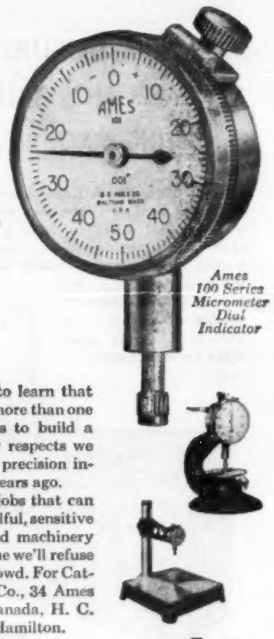
AEROQUIP CORPORATION, JACKSON, MICHIGAN
INDUSTRIAL DIV., VAN WERT, OHIO • WESTERN DIV., BURBANK, CAL.
AEROQUIP (CANADA) LTD., TORONTO 19, ONTARIO

▲ For more details circle NED-583 F on enclosed inquiry slip ▲

AMES DIAL INDICATORS are built by nonconformists



Ames 100 Series Micrometer Dial Indicator

Some people might be shocked to learn that in this day of automation it takes more than one hundred separate hand operations to build a single Ames micrometer. In many respects we are building and assembling these precision instruments exactly as we did fifty years ago.

Why? Because there are some jobs that can still be done *better* by a pair of skillful, sensitive hands than by the best automated machinery made. As long as this fact holds true we'll refuse — for *your* sake — to follow the crowd. For Catalog No. 60 write to: B. C. Ames Co., 34 Ames St., Waltham 54, Mass. — in Canada, H. C. Burton Co., 166 Rebecca Street, Hamilton.

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B.C. AMES CO.

MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES
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LOW COST INCINERATOR

BURNS TRASH SAFELY OUTDOORS

Only $110.00 COMPLETE

NO INSTALLATION COST

Burn wrappings, sweepings, papers, cartons, packing, rags, food waste, safely outdoors. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing papers. Burns damp, green, or dry refuse to fine ash in any weather. Minimizes smoke and smell, needs no watching. Safe for use 10' from buildings. Stands 52" high x 35" square at base. 10 bushel burning capacity. Complete with hinged hood, ash pan base and grate and cleanout door. Made of aluminized steel (molten aluminum bonded to steel) with replaceable inner steel panel construction for long life. Shipped assembled—weight 170 lbs. Only $110.00 F.O.B. Cleveland. Satisfaction guaranteed. Other sizes available.

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ALSTO COMPANY
Dept. 14 4007 Detroit Ave. Cleveland 13, Ohio

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Dwyer DRAFT GAGES

- Made from a solid block of clear acrylic plastic material—indicating tube and oil chambers drilled and reamed
- Maximum scale visibility
- unbreakable construction.
- A wide variety of stationary and portable gages, each furnished complete with tubing and all accessories.

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F. W. DWYER MFG. CO. P. O. BOX 373 -Q MICHIGAN CITY, IND.

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SHENANGO IRON BAR STOCK

for high quality, long wearing parts at low cost

Here are reasons why you will want to learn more about Shenango solid bars and centrifugally cast tubular bars for quality parts produced on your automatic screw machines or lathes: • Available centerless ground or as cast • Lengths up to 6', 1" to 14" diameter • Choice of analyses – GC Meehanite, GA Meehanite, Ductile Iron, Ni-Resist, Ductile Ni-Resist • Eliminates pattern equipment costs • Increases production output • Small quantity ordering reduces inventory • Fast delivery to exacting specifications • Machines with a free-cutting chip, not a fine powder • Special solid bar shapes available... hexagonal, square, rectangular and oval • Write on your letterhead for a machining sample. Centrifugally Cast Products Division, The Shenango Furnace Company, Dover, Ohio.

SHENANGO CENTRIFUGAL CASTINGS

COPPER, TIN, LEAD, ZINC BRONZES • MANGANESE AND ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL • ALLOY IRONS • DUCTILE IRON

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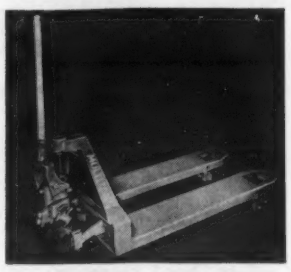
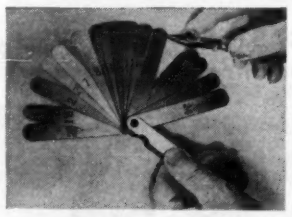
HAND PALLET TRUCKS
17¾ and 33-in. wide models



Line of Multiton hand pallet trucks has been expanded to 84 models with addition of 17¾ and 33-in. wide units. Other widths available (distance across both forks) are 20½ and 27 in. Trucks are offered in 2200, 3500, and 4400-lb capacities and in seven fork lengths from 32 to 72 in. They have self-contained, removable hydraulic systems, overload and overflow valves, enclosed forks, box section push rods, and entry and exit rollers. Lift is hand-operated to height of 7¾ in. • **Stokvis Multiton Corp.**, 18 Secatoag Ave., Port Washington, N. Y.

▲ For more details circle NED-589 F on enclosed inquiry slip ▲

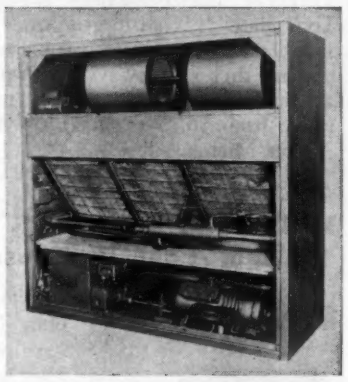
RULING PEN GAGE
presets pen for accurate lines



Twenty-five flat steel feelers ranging in thickness from 0.0015 to 0.025 in. are provided in jack knife arrangement in this Line* Man gage for presetting the line width of all ruling pens, and compasses. Appropriate feeler is inserted between the pen blades during adjustment. Gage sells for $3. • **Laramie Chemical Corp.**, Box 266, Ridgeway Station, Stamford, Conn.

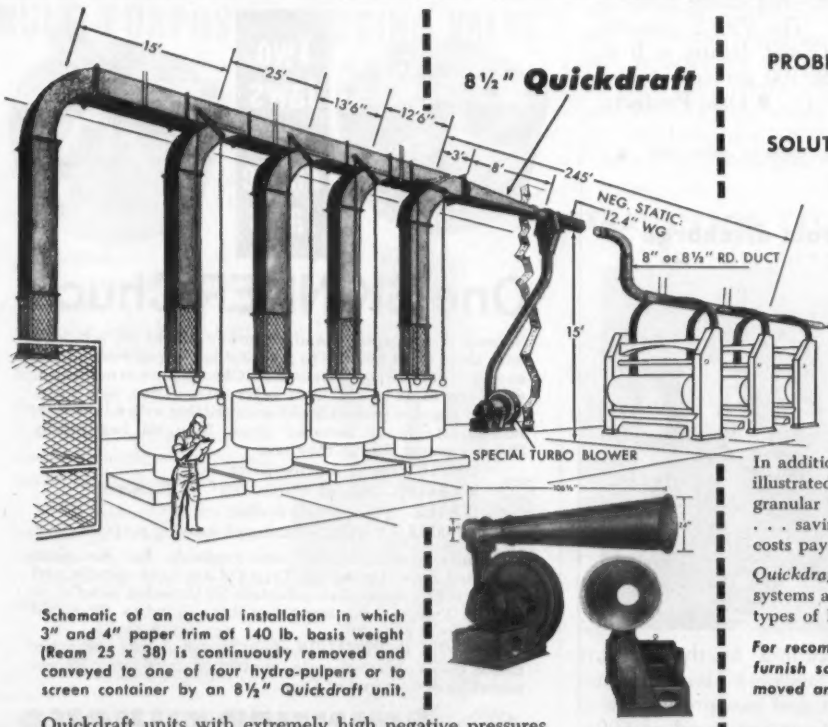
▲ For more details circle NED-590 F on enclosed inquiry slip ▲

PACKAGED AIR CONDITIONERS
in 10 to 30-hp capacities



Packaged air conditioners for plant and office use have panel type casings with 1-in. glass fiber insulation for quiet operation. Units are available in 10, 15, 20, 25, and 30-hp capacities, the last three of which are equipped with dual compressors. The 10 and 15-hp models are available with free air discharge plenum and steam coils in the plenum. All models can be used with steam coils in the duct system, and all can be furnished with fresh air inlets. Finish is hammertone blue-gray enamel with vinyl paint undercoating. • **Dunham-Bush, Inc.**, 179 South St., West Hartford 10, Conn.

▲ For more details circle NED-591 F on enclosed inquiry slip ▲



Schematic of an actual installation in which 3" and 4" paper trim of 140 lb. basis weight (Ream 25 x 38) is continuously removed and conveyed to one of four hydro-pulpers or to screen container by an 8½" *Quickdraft* unit.

Quickdraft units with extremely high negative pressures are available in 4½" to 30" diameters in plastic-coated steel, No. 316 Stainless Steel or rigid plastics for corrosion resistance.

Patents 2,722,272 and 2,855,874 and Patents Pending plus Exclusive Foreign Patents.

PROBLEM: High speed removal and disposal of paper trim

SOLUTION: *Quickdraft* VACUUM SYSTEM

Quickdraft high-pressure vacuum systems have proven extremely successful, efficient and economical in solving materials handling problems. In addition to paper or plastic film trim, the system illustrated could convey any bulk, powdered or granular material that can be moved by air. And . . . savings in labor, down-time and replacement costs pay for *Quickdraft* units in 12 to 24 months!

Quickdraft units also are used for industrial exhaust systems and to increase combustion efficiency in all types of heating plants.

For recommendations on materials handling, please furnish sample of material, distance material to be moved and sketch of proposed installation.

Quickdraft CORPORATION P. O. BOX 87-L CANTON 1, OHIO

9012-QD

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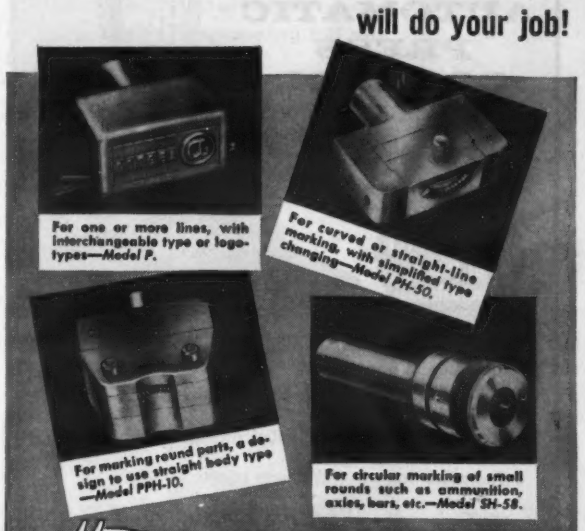
PRESS STAMPING?

These Holders or a MECCO SPECIAL will do your job!



Mecco SAFETY MARKING TOOLS

Write for Press Holders Bulletins

M.E.CUNNINGHAM CO.

1055 CHATEAU STREET, PITTSBURGH 33, PA.

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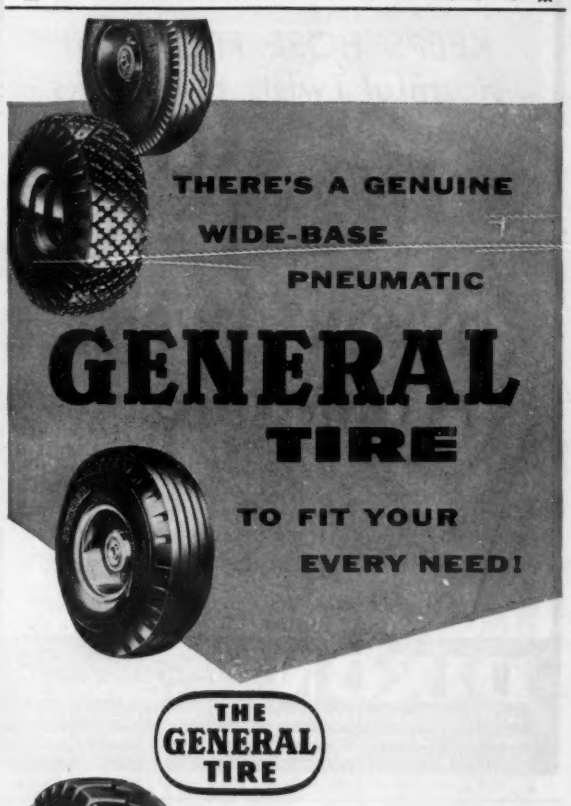

THE GENERAL TIRE

With a wide-base design for every application, General Pneumatics assure low-cost, long-run operation on every job. Generals safety-cushion equipment and loads, protect floors, increase load capacity. What's more their high flotation means easier rolling. Check the entire line for the General Pneumatic to suit your product.

Available separately or in assemblies of tires, tubes and wheels. Size O.D.8" to 35"—200 to 7890 lbs. capacity for low or high speeds.

Send for Catalog, Dept. 4

THE GENERAL TIRE & RUBBER CO.
AKRON, OHIO

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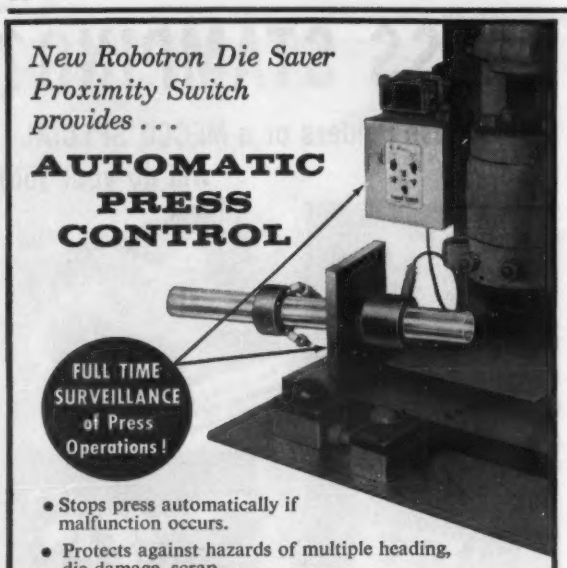
New Robotron Die Saver Proximity Switch provides . . .

AUTOMATIC PRESS CONTROL



- Stops press automatically if malfunction occurs.
- Protects against hazards of multiple heading, die damage, scrap.
- Keeps presses operating efficiently and profitably *with limited supervision.*
- Increases output . . . reduces rejects.

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Robotron® CORPORATION
21300 WEST EIGHT MILE ROAD • DETROIT 19, MICH.

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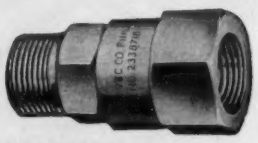
KEEPS HOSE FREE from Harmful Twists and Kinks



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Used on end or intermediate connections this practical I.P.T. fitting eliminates twisting and kinking in hose in sizes up to ¾" I.D. Turns freely and remains leakproof under pressure. No parts to get out of order. Steel, cadmium plated.

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ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC., QUAKERTOWN, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

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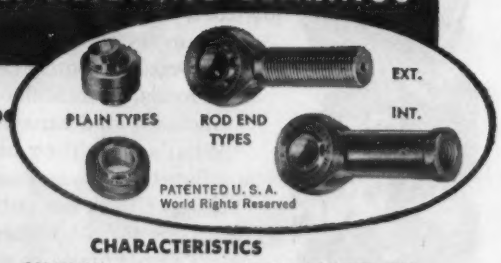
SOUTHWEST
"Monoball"®
SELF-ALIGNING BEARINGS



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	ANALYSIS	RECOMMENDED USE
1	Stainless Steel Ball and Race	For types operating under high temperature (800-1200 degrees F.).
2	Chrome Alloy Steel Ball and Race	For types operating under high radial ultimate loads (3000-893,000 lbs.).
3	Bronze Race and Chrome Steel Ball	For types operating under normal loads with minimum friction requirements.

Thousands in use. Backed by years of service life. Wide variety of Plain Types in bore sizes 3/16" to 6" Dia. Rod end types in similar size range with externally or internally threaded shanks. Our Engineers welcome an opportunity of studying individual requirements and prescribing a type or types which will serve under your demanding conditions. Southwest can design special types to fit individual specifications. As a result of thorough study of different operating conditions, various steel alloys have been used to meet specific needs. Write for Engineering Manual No. 551. Address Dept. NED60

SOUTHWEST PRODUCTS CO.
1705 SO. MOUNTAIN AVE., MONROVIA, CALIFORNIA

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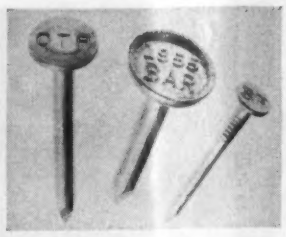
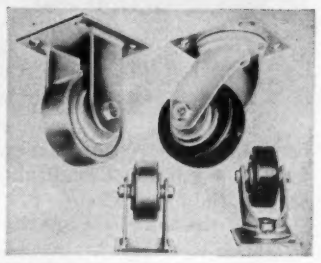
MARKING NAILS
made of copper or aluminum



Electrical apparatus, buildings, patterns, and tools are among the many items which can be permanently identified and dated with three types of copper and aluminum marking nails. Type MN-1 is available in 2, 2½, and 3½-in. lengths with a 1-in. head diameter and shank diameter of 5/16 in. Head with protective outer rim has raised or relief marking that can be numbered consecutively to 9999 with up to three lines of lettering. Type MN-2 in 2 or 2½-in. lengths has a ¾-in. head and ¼-in. shank. Type MN-3 is made in 1½, 2, and 2½-in. lengths with a ½-in. head and 3/16-in. shank. Both MN-2 and MN-3 have depressed lettering. Numbers, lettering, and trademarks can be embossed on these nails. Special sizes can be specified. • **John Hassall, Inc.,** Dept. TR, Cantiague Road, Westbury, L. I., N. Y.

▲ For more details circle NED-597 F on enclosed inquiry slip ▲

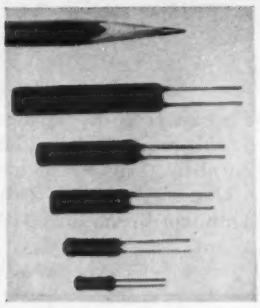
SWIVEL & RIGID CASTERS
wheel hubs have thread guards



Extra wide spaced forks of Series 33 Thread Guard casters have close-fitting pressed steel thread guards around the wheel hubs to prevent entry of foreign matter. Spacer tubes fitted between fork legs and thread guard provide opening for cleaning casters without dismantling. Swivel and rigid models are available with Texite or semisteel wheels in 4, 5, or 6-in. diameters. Top plate is cold-forged from 3/16-in. steel plate. Double ball bearing swivel has separate load and component thrust raceways. All parts except wheel are zinc plated. Capacities are 400 and 500 lb and prices range from $6.15 to $9.50. • **Albion Industries, Inc.,** Albion, Mich.

▲ For more details circle NED-598 F on enclosed inquiry slip ▲

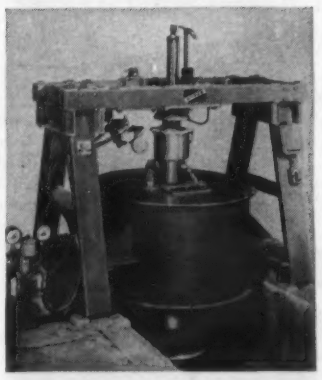
MINIATURE RESISTORS
3, 5, 7, and 10-w base mounted units



Miniature, wire wound Dalohm Type PRS resistors are base mounted with two parallel leads for use in printed circuits where space is limited. Silicone coating maintains stable performance in adverse environments. Resistors are offered in 3, 5, 7, and 10-w ratings, in five sizes from 9/16 x 3/16 to 1 25/32 x ⅜ in. Resistance range is from 0.05 ohm to 175 kilohms. The PRS-2 provides 100 per cent power up to 100° C and derates to 0 at 275° C. Other four sizes provide 100 per cent power to 25° C and derate to 0 at 275° C. • **Dale Products, Inc.,** Columbus, Nebr.

▲ For more details circle NED-599 F on enclosed inquiry slip ▲

CENTRIFUGAL DRYER
has full-opening bottom discharge



Discharger is eliminated in the Hypar Model SCD batch type centrifugal dryer which is adaptable to any required degree of automation. Unit can be loaded standing still or rotating slowly. Automatic discharge of bulky loads is fast and easy because bottom opens to full inside diameter of the basket. Dryer is used for textile reclamation and difficult applications in the metal, food processing, and chemical fields. It is made in several capacities up to 13 cu ft and can process material at 520 cfh operating at maximum speed of 600 rpm. • **American Tool & Machine Co.,** 1417 Hyde Park Ave., Boston, Mass.

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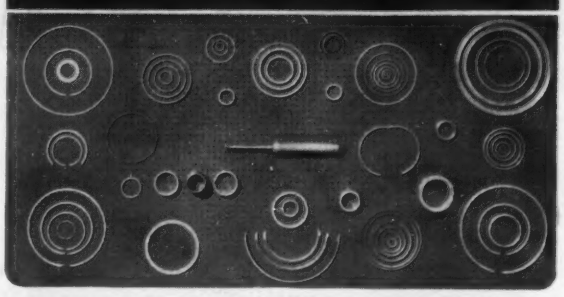
PISTON RINGS for every purpose



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COMPRESSORS
STEAM ENGINES
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AIRCRAFT—AN SCRAPERS
AND MANY OTHERS

Auto-Diesel has specialized in piston rings since 1921. We have but one thing to offer you—Quality Piston Rings—to your specifications—delivered on time—at attractive prices.

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CLEAN AUTOMOTIVE & INDUSTRIAL PARTS
3 WAYS!
1. Continuous Flow Hose
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3. "Super Power" Jet Air Gun
A must in every service shop!

Kleerflo SUPER CLEANMASTER MODEL 50

Model 30 (less Jet Air Gun) also available

The safe and sane way to clean parts! Suggested Cleaning Compounds: Kleerflo Hi-T Degreasol—Fast drying leaves no film or Kleerflo Hi-T M467—Penetrating—leaves film that prevents rust.

WASH AN ENTIRE ENGINE BLOCK OR 300 LBS. OF PARTS . . .
FAST!

Kleerflo POWERMASTER DEGREASER
AUTOMATIC
HOT TANK
POWER AGITATED

REDUCE OPERATING COSTS!
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America's Foremost Producer of Parts Cleaning Equipment
PRACTICAL MFG. CO.
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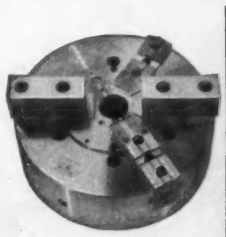
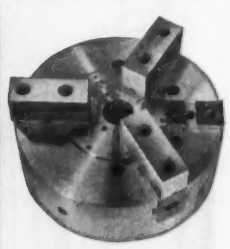
▲ For more details circle NED-602 F on enclosed inquiry slip ▲



Two Jaws or Three Jaws



One SKINNER Chuck

Skinner dual purpose standard power chucks are provided with three and two jaws to permit chucking of round work as well as odd shapes and castings. Change jaws as necessary, using the same chuck. This saves set-up time, cuts costs.

Dual purpose power chucks are available with adjustable, non-adjustable or serrated jaws. Like all heavy-duty Skinner power chucks they are:

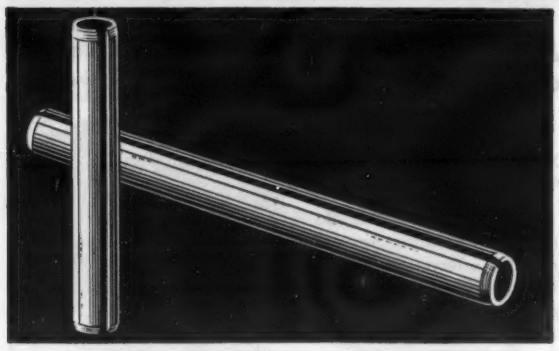
SIMPLE—Fewer moving parts
ACCURATE—Repeat within .001" on diameter
STRONG—Forged steel bodies
DURABLE—Carefully hardened wearing surfaces

Skinner power chucks are available for American Standard Type A nose, the Type D Cam-Lock spindle, and for use with intermediate adaptors for threaded spindles or for the Type L long taper key drive spindles. Body diameter from 3" to 36".

FOR MORE INFORMATION about power chucks and other major chuck developments, contact your Skinner Representative or write us at Dept. 566.

SKINNER CHUCKS
THE CREST OF QUALITY
THE SKINNER CHUCK COMPANY • NEW BRITAIN, CONNECTICUT, U.S.A.

▲ For more details circle NED-603 F on enclosed inquiry slip ▲



Corrosion-resistant and versatile... SEL-LOK spring pins of stainless steel

- Higher tensile and shear strength
- Complete range of sizes—1/16 x 3/16 through 1/2 x 4 in.—available immediately
- Fast, economical fastening—just drill and drive
- Eliminate costly tapping, reaming, peening, milling
- Lock securely; can be used repeatedly

SEL-LOK spring pins are also stocked in carbon steel (same sizes as stainless) and in beryllium copper in a complete range of sizes from 1/16 x 3/16 through 1/4 x 3 1/2 in. See your authorized distributor or write us for Bulletin 2331 and samples.

INDUSTRIAL FASTENER Division SPS

JENKINTOWN 24, PENNSYLVANIA

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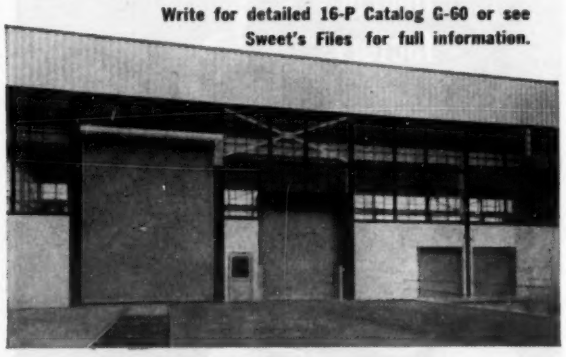
Mahon rolling steel doors

SAVE SPACE
SAVE SERVICE
SAVE COSTS

in sizes and types to fit your application

Rolling Steel Doors are the proven and best way of closing any type opening. For a plant, distribution center or loading dock—in new or remodeled facilities—Mahon has the right Door for the job. Rugged, easy operating, Bonderized (and synthetic baked enamel protected) Steel Doors, power or manually operated, will give you long, trouble-free service. If damaged, they are completely repairable by an experienced Mahon crew . . . service contracts available.

Write for detailed 16-P Catalog G-60 or see Sweet's Files for full information.



MAHON

THE R. C. MAHON COMPANY • DETROIT 34, MICHIGAN

Manufacturing Plants—Detroit, Mich. and Los Angeles, Calif.
Sales Offices or Representatives Located in All Principal Cities

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MULTI-PURPOSE REDUCING VALVE

Sensitive, Accurate Control for Steam and Air Service

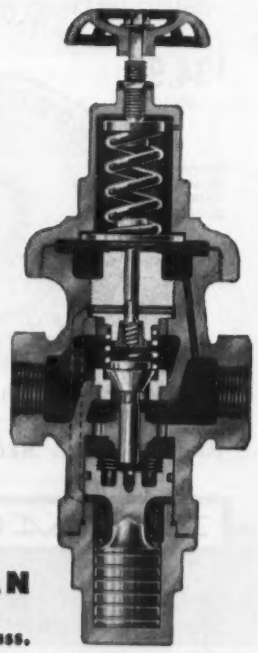
No. 11

An excellent regulator for many power plant and industrial plant applications. Internal pilot operated.

For Steam . . .
No. 11-11 has special alloy stainless steel valve, hardened for long life, ground to seat tightly and superfinished.

For Air . . .
No. 11-12 has soft-seated main and pilot valve to insure tight shut-off.

Your Mason-Neilan Distributor carries these reducing valves in stock. Consult him — or write for catalog.



MASONEILAN

MNO-12

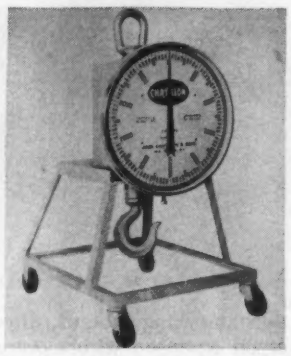
MASON-NEILAN

Division of Worthington Corp.

69 Nahatan St., Norwood, Mass.

▲ For more details circle NED-606 F on enclosed inquiry slip ▲

CRANE SCALE
3, 5, 7 1/2, 10, and 15-ton models



Unaffected by normal weather or temperature changes, the Iso-Seal heavy duty crane scale is accurate within 0.1 per cent. It is approved for legal trade use by National Bureau of Standards. Scale makes possible weighing products as they are moved, and is unaffected by shock loads up to 25 per cent over full load. Tare can be adjusted to 25 per cent of capacity. Indicating mechanism in the cast aluminum and cast iron case is protected against dust and injurious gases. A 360-degree swivel ball bearing hook is standard, and fixed hooks and a scale dolly are optional. Five models have 3, 5, 7 1/2, 10, and 15-ton ratings. • **John Chatillon & Sons**, 85 Cliff St., New York 38, N. Y.

▲ For more details circle NED-607 F on enclosed inquiry slip ▲

ROLLER CONVEYOR
heavy duty unit is chain driven

The 6 1/2-ft long rollers of this heavy duty roller conveyor are carried in a spring-mounted frame to minimize shock. They are made of 4 1/2 x 1/2-in. tubing

and equipped with grease type precision bearings. The large size, chain driven conveyor is custom designed to meet specific requirements. • **Standard Conveyor Co.**, 315 N. W. Second St., North St. Paul 9, Minn.

▲ For more details circle NED-608 F on enclosed inquiry slip ▲

AUTOMATIC MICROFILMER
40:1, 32:1, 24:1 reduction ratios

Up to 185 letters or 500 check-size forms are automatically microfilmed in a single minute by the Recordak Reliant 500 16-mm microfilmer. Kodamatic indexing for rapid retrieval of data, a high speed feeder, and a document counter are featured. Interchangeable film unit permits changing reduction ratios in a few seconds, allowing different departments to use the machine at any reduction to suit their needs. Available ratios are 40:1, 32:1, and 24:1. Finish is two-tone green. • **Recordak Corp.**, 415 Madison Ave., New York 17, N. Y.

▲ For more details circle NED-609 F on enclosed inquiry slip ▲

TRANSISTOR TESTER
reads in current gain (beta) values

Model 160 transistor tester will save time and guesswork in servicing transistor sets and equipment. It gives quick and accurate current gain (beta) readings of the transistor and is accurate to within ±3 per cent. All transistors are automatically biased to standard 1-ma collector current. Unit will give direct readings on shorted, open, and leaky junctions; will test gain and leakage of power transistors; and will test tetrodes. Available direct-current power supply is variable and metered and can be used to power transistor radios for servicing. Set operates on 105-125-v 50-60 cycle ac, weighs 4 1/2 lb, and is priced at $69.95. • **B & K Mfg. Co.**, 1801 W. Belle Plaine Ave., Chicago 13, Ill.

▲ For more details circle NED-610 F on enclosed inquiry slip ▲

SAVE ON

SAW SHARPENING

If it costs you $25.00 or more a month, let your monthly sharpening bill pay for a FOLEY SAW FILER.

What is your monthly saw sharpening bill? Are you paying $25.00 a month or more, or sharpening saws by hand, or probably using them when too dull? If so, a Foley Saw Filer will soon pay for itself in your plant. With the Model 200 Foley Automatic Saw Filer you can sharpen both "combination" and crosscut circular saws, band saws and hand saws. No experience needed to turn out precision sharpening with a Foley. Increase your sawing production, improve your work quality, prolong the life of your saws—and let your monthly sharpening bill pay for the Foley.

30-DAY TRIAL OFFER

You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO.

3323 N. E. 5th STREET
MINNEAPOLIS 18, MINN.

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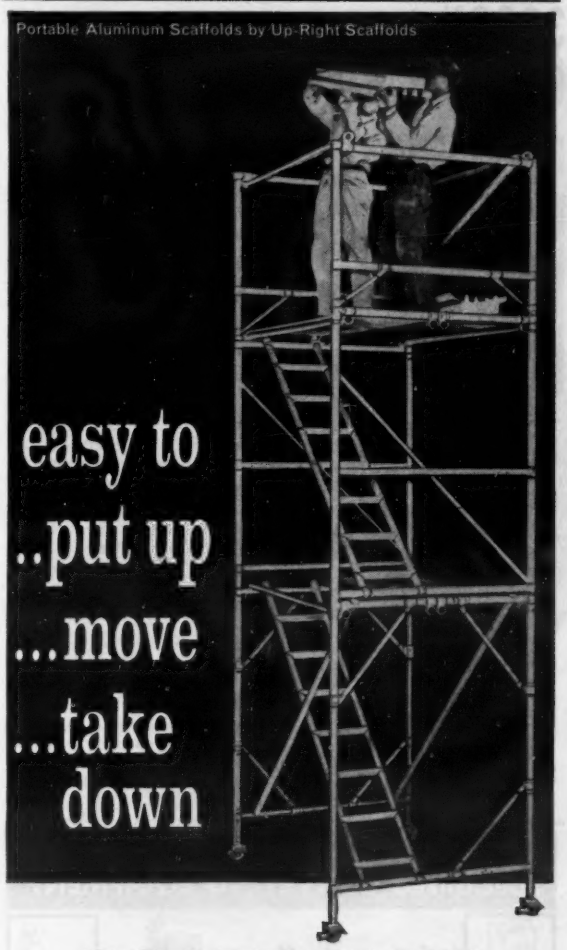


SCAFFOLDS of strong, lightweight REYNOLDS ALUMINUM

Aluminum weighs only 1/3 as much as steel—and pound for pound, it's actually stronger.

That's why you make your painting and other maintenance work so much easier with scaffolds of Reynolds Aluminum. They're easier to handle, move and use.

And, because aluminum is strong and rustfree, these scaffolds serve longer, with little or no attention.

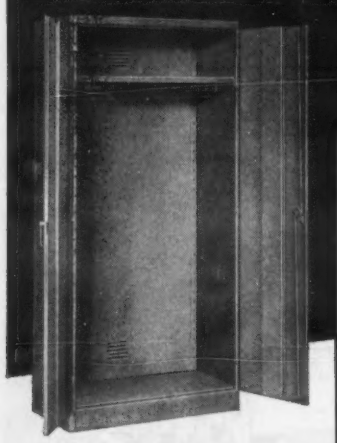
For names of the manufacturers of strong, lightweight, work-saving aluminum scaffolds, write *Reynolds Metals Company, P.O. Box 2346-NO, Richmond 18, Virginia.*

Watch Reynolds TV shows: "BOURBON STREET BEAT" "ADVENTURES IN PARADISE"; and "ALL STAR GOLF" (resuming in October)—ABC-TV

▲ For more details circle NED-612 F on enclosed inquiry slip ▲

DELUXE

STORAGE CABINETS



Eight Exclusive Features

- Concealed hinges
- One size sheet metal screw (no bolts)
- Built-in locking handle
- Vertical corner reinforcement
- Offset back for strength
- Shelf load supported free of back
- Louvers for ventilation
- Domed bottom glides

Smartly styled executive line Deluxe cabinets feature smooth modern exterior and exclusive Chem-A-Cote° bonded baked enamel finish for life long service. Available in a choice of ten sizes and designs.

Royal

ROYAL METAL MANUFACTURING COMPANY

DELUXE METAL PRODUCTS DIVISION • 1 PARK AVE., NEW YORK 16

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3000% more Grinding/Finishing/Polishing production!

You can boost grinding, finishing or polishing output up to 3000% on flat work, 600-700% on contours, by backing up your coated abrasives with VALCORE inflated wheels. Resilient contact drum puts more abrasive against the work . . . absolutely prevents band slippage . . . eliminates undercuts . . . avoids chatter and bounce . . . produces straight-pattern finish. Use VALCORE on portable tools or benchstands for all abrasive operations from moderate stock removal to fine micro-finishing.

Send NOW for Free Catalogs on NU-MATIC VALCORE Wheels and FLEXCORE Expanding Wheels

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CANADIAN DISTRIBUTOR: Wm. Orlick, Ltd., Hamilton, Ontario

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PRAB PRECISION ENGINEERED Specialized CONVEYING EQUIPMENT

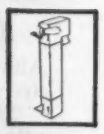
MAGNAVATOR

Automatically- ELEVATE YOUR SMALL PARTS *Magnetically* WITH THE

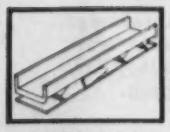
MAGNAVATOR

TUBE-VEYOR

PARTS FEEDING CONVEYOR


BUCKET ELEVATOR

MAGNAVATOR eliminates manual labor usually required for filling hoppers and transferring between machines . . . conserves valuable floor space . . . automatically handles up to 8000 lbs. per hour . . . serves two or more machines. The self-feeding MAGNAVATOR efficiently handles small parts up to 8 lbs. each, such as castings, bolts, nuts, forgings, rivets, stampings, etc. The automatic MAGNAVATOR can greatly reduce your materials handling costs.


VIBRATING CONVEYOR

Advantages: Self-feeding • maintains material level automatically • pleasing appearance, portable • vertical handling saves floor space • hot parts can be handled • no jamming • each unit engineered to YOUR specific requirements.

STEEL BELT CONVEYOR

SEND FOR CATALOG #600

Representatives in Principal Cities

PRAB CONVEYORS, INC.

PRAB Products Mfd. under Pats.

30119 GROESBECK HWY ROSEVILLE (Detroit) MICH

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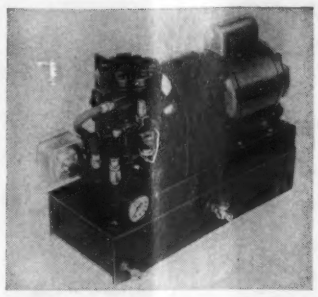
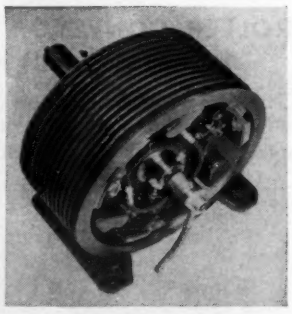
COMPACT AIR COMPRESSOR delivers 2.7 cfm at up to 100 psi



Extremely compact and readily incorporated in other equipment, this automatic air plant is rated 1/3 hp and measures 18 x 12 x 15 in. Driven by a 1/3-hp electric motor at 1725 rpm, it has a displacement of 2.7 cfm at pressures to 100 psi. It has an air cooling fan, vibration absorbing mounts, direct drive, and 3-gal air reservoir equipped with moisture drain cock, safety valve, automatic start-stop switch, pressure gage, and air outlet needle valve. • **Ajax Equipment & Electric Co.**, Ajax-National Air Compressor Div., 229 Centre St., New York 13, N. Y.

▲ For more details circle NED-616 F on enclosed inquiry slip ▲

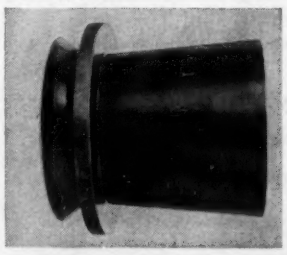
GOVERNOR-CONTROLLED BRAKE for speeds up to 2400 rpm



Built-in governor control in this heavy duty braking (tension control) unit automatically reduces the torque output by means of counterweights in the shoe assembly as the speed increases. It operates at speeds to 2400 rpm. Air and water cooled models, with permanent or adjustable bases, are available for shaft end or flange mounting. • **Horton Mfg. Co.**, 1179 15th Ave., S. E., Minneapolis 14, Minn.

▲ For more details circle NED-617 F on enclosed inquiry slip ▲

FLOW TUBE allows accurate flow measurement



Short, compact size of the Lo-Loss flow tube facilitates installation in horizontal, vertical, or inclined lines carrying water, sewage, sediment bearing liquids, trade wastes, air, or gases. Tube produces a differential for accurate measurement of flow. It is available in cast iron, bronze, stainless steel, plastic, or any specified material, and can be formed, cast, or fabricated to special requirements. • **Burgess-Manning Co.**, Penn Instruments Div., 4110 Haverford Ave., Philadelphia 4, Pa.

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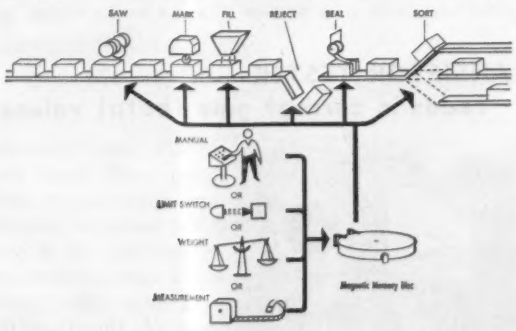
MAGNETIC MEMORY SYSTEM controls grading, sorting, marking, or trimming on conveyed products

Complete control of grading, sorting, filling, marking, wrapping, stamping, or trimming operations on conveyed products of any type and size is provided by the



Magnestat magnetic memory system. It can be activated manually, by limit switches, or by weight or size of conveyed material. A processing decision to be made at one point in the production line is stored on a magnetic disc for automatic execution at a later stage in the production line.

Memory discs are built for continuous industrial use, and other components are not affected by shock, vibration, dirt, moisture, or temperature variations. Entire system is relatively maintenance-free. • **Republic Electric & Development Co.**, 2627 Western Ave., Seattle 1, Wash.

▲ For more details circle NED-619 F on enclosed inquiry slip ▲

BURNERD MECHANITE Precision Chucks

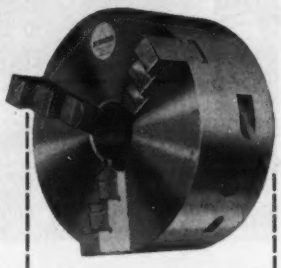
Unsurpassed in quality, precision and value!

When you buy Burnerd, you buy the best—in precision, service life and value.

Every Burnerd chuck is built to uncompromisingly high standards of accuracy. Every Burnerd chuck is *guaranteed* against defects in material and workmanship *for a period of two years.* Every Burnerd chuck is backed by the coast-to-coast sales and service organization of Clausing.

Check the wide variety of types and sizes against your requirements. Then write for a catalog and check prices—you'll be pleasantly surprised. When you invest in a Burnerd you save 20—even 30%! You get *more . . . far more . . .* with Burnerd.

Send for literature today.



GRIPTRU scroll chucks

Concentricity within .0002" TIR!

4" to 12" dia.

3- and 4-jaw universal chucks

4" to 24" dia.

4-jaw independent chucks

6½" to 28" dia.

Direct mounting and backplate mounting chucks

337

BURNERD CHUCKS CLAUSING DIVISION

ATLAS PRESS COMPANY

6-215 N. PITCHER ST. — KALAMAZOO, MICH

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ON THE SPOT

ACTUAL SIZE

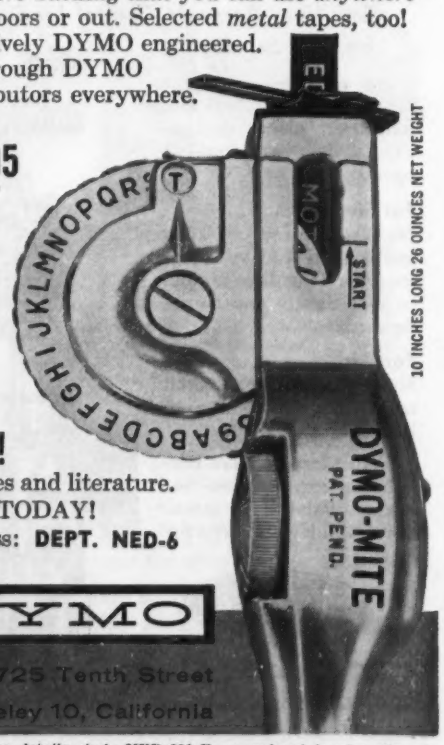
EMBOSSED LABELS

in seconds by anyone!

RAISED LETTER *high-contrast* labels made just where you need them right in the palm of your hand . . . *dial* your letters and *gently* press the handle, that's all! On a wide variety of *colored vinyl* tapes with a pressure-sensitive adhesive backing that you can use *anywhere*—indoors or out. Selected *metal* tapes, too! Exclusively DYMO engineered. Sold through DYMO distributors everywhere.

$34.95 AND UP

CHOOSE FROM FOUR MODELS



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Samples and literature. Write TODAY! Address: DEPT. NED-6

DYMO

2725 Tenth Street

Berkeley 10, California

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PROVEN, DEPENDABLE... REAR-PROJECTION TYPE

IN-LINE DIGITAL DISPLAYS

PRICES
Series 10000
1 9/16" wide
2 5/8" high
5 5/8" long
$18.00 each

Series 80000
3 1/4" wide
5 1/4" high
11 15/16" long
$33.00 each

Series 120000
1" wide
1 9/16" high
3 7/8" long
$35.00 each

Quantity Prices On Request

OUTSTANDING FEATURES
- All digits displayed on front viewing screen
- All digits uniform in size and intensity
- High-contrast viewing screen
- Digit style of your choice
- Colored digits of your choice
- Individual units may be group assembled for panel mounting

WRITE TODAY FOR COMPLETE DETAILED SPECIFICATIONS
Representatives in principal cities

INDUSTRIAL ELECTRONIC ENGINEERS, INC.
5528 Vineland Avenue, North Hollywood, California

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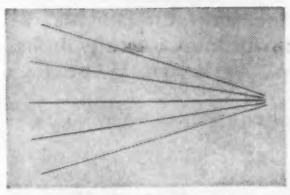
INSPECTION LABELS
adhere to various surfaces

Pressure - sensitive inspection labels carrying such bold lettered words as "rejected," "re-work," "accepted," and "calibrated" are available to speed materials through production lines. Space is provided beneath wording for inspector's name or number. Each label is color-coded for identification. Labels are packaged 12 to a sheet, from which they are easily removed, and will adhere to various surfaces without moistening. • Avery Label Co., S. California Street, Monrovia, California.

▲ For more details circle NED-625 F on enclosed inquiry slip ▲

WIRE STRAIGHTS
for hermetic sealing purposes



Wire straights for hermetic sealing purposes are now available in quantity. Improved wire straightening equipment makes possible speeded-up delivery of unusually straight wires with no surface markings and with square-cut ends. Company stocks standard sizes of Rodar and 52 alloy wire. Nonstandard wire diameters and alloys can be specified. • Art Wire & Stamping Co., 227 High St., Newark 2, N. J.

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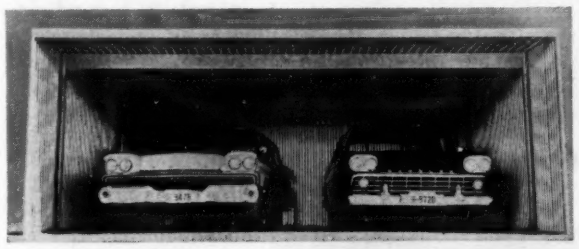
ENCLOSED CARPORT
suited for storage or service area

Usable at office buildings, industrial plants, and other locations, this closed-in carport is in effect a three-sided building which is also suitable as a storage area, for



service operations, and as a low cost building. Standard prefabricated carports are converted to buildings by adding the necessary prefab galvanized side panels. Installed price of a carport-building of average size (6 to 10 car spaces) is $1.00 to $1.25 per sq ft. Units can be joined in double parallel rows to give as much as 40 ft, front to back. Carport-buildings are erected with hand tools, and they can be disassembled for use elsewhere if desired. • Childers Mfg. Co., Box 7467, Houston 8, Tex.

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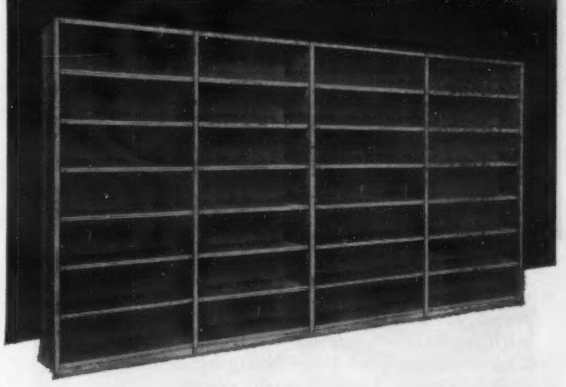
DELUXE SHELVING
The Best You Can Buy!



Here's Why:
It's strongest: I-beam end-panel construction with box-lid type shelves and factory embedded reinforcing bars.
It assembles fastest: Patended boltless design permits assembly of regular section in less than five minutes.
It's tops in quality: All parts are smooth, with rounded edges, and paint is electrostatically applied.

Royal

ROYAL METAL MANUFACTURING COMPANY
DELUXE METAL PRODUCTS DIVISION • 1 PARK AVE., NEW YORK 16

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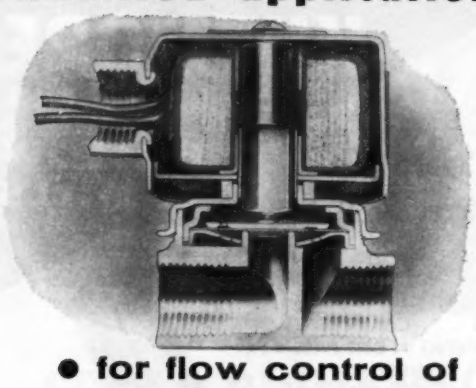
unlimited applications!



• for flow control of water, air, low pressure steam, brines, light oils, gases.

JE INDUSTRIAL SOLENOID VALVES

5/16" to 1-1/2" Port Sizes—1/4" to 1-1/2" N.P.T. Connections
Write for information bulletin today.

Controls Division
JACKES-EVANS MANUFACTURING COMPANY
4427 Geraldine Ave., St. Louis 15, Mo.

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STARTLING NEW TORNADO 280

FLOOR MAINTENANCE MACHINES

Surpasses EVERY Competitor in EVERY Respect

Greater Power—constant duty fan cooled motor (1.25 service factor) can operate under extreme overloads without overheating. Delivers highest starting torque, greatest running torque and lowest amperage draw.

Greater Comfort—mechanically concentric and dead-center balanced to eliminate all wobble and jump. Human engineered for maximum control and operator comfort.

Guaranteed for 2 full years

Priced below most competitive makes.

TORNADO

9 MODELS (15", 17", 19", 22" BRUSH SIZES.)

Get the facts—Write for bulletin 986.

BREUER ELECTRIC MFG. CO.
5116 NORTH RAVENSWOOD AVENUE, CHICAGO 40, ILLINOIS

▲ For more details circle NED-629 F on enclosed inquiry slip ▲

THE NEW MILLER ALL-IN-ONE SPOT WELDER for ALL NUMBER ONE WELDS

LECTRO SPOT

Built-in Timer Turns the Trick

Sheet metal shops ready for new speed, economy and completely uniform spot welds will want the new Lectro Spot. Here's why:

Operator depresses lever and,
1 — 2 — 3:
Tongs grip work at pre-set pressure;
Starter switch is actuated;
Weld sequence starts and stops automatically;
Result: EVERY WELD IS IDENTICAL!

Pressure adjustment and electronic timer controls instantly accessible.

Three models in 115 or 230 volts weld mild steel of 1/8" to 3/16" combined thickness; 1.5 KVA weighs 29 lbs., 2.5 KVA weighs 39 lbs.

Wide choice of tongs available.

Complete information sent promptly.

miller ELECTRIC MANUFACTURING COMPANY, INC. Appleton • Wisconsin

Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal

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"Slickest visual control..."

states *Factory* magazine. Entries made directly with marking pencil on a rolling "Mylar" sleeve which *moves with time,* bringing deadlines constantly closer. Entries easily erased.

Send for *FREE GUIDE to Control Methods*
with full-scale, sample chart section

Shows how Rol-a-chart controls 22 different items: orders, production, data processing, maintenance, dispatching, sales, etc. Also expert consultation service with no obligation.

Rol-a-chart Division

Conley, Baltzer & Steward, 494 Jefferson Street, San Francisco 9

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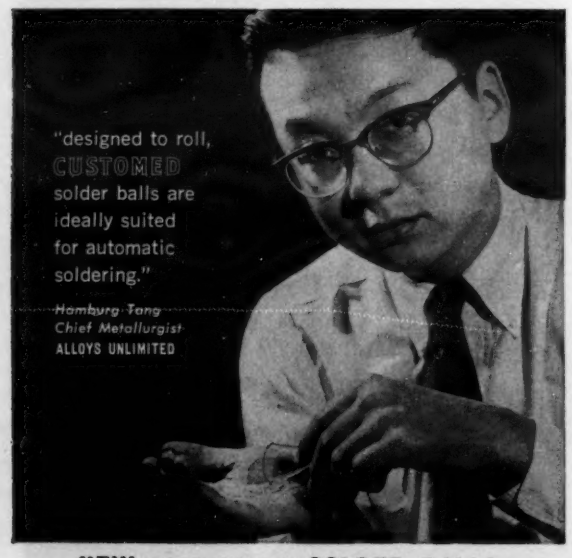

NEW CUSTOMED SOLDER BALLS FEED AUTOMATICALLY

Solder balls, for many applications, are an important improvement over the more common preform shapes in 3 ways. 1. They can be loaded into a jig and rolled into place. 2. Accurate to .001", the correct amount of solder is always assured. 3. Their method of manufacture eliminates costly dies. For complete information, write today!

21-01 43rd Avenue, Long Island City 1, N. Y.

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GO UP WITH CONFIDENCE ON

BALLYMORE *Safety-Step* LADDERS

GRIPS THE FLOOR

ROLLS EASILY

Welded steel or aluminum safety treads combined with wide-base pyramid design offer extra safety and stability at heights up to 15 ft. Spring-mounted casters permit easy rolling, yet grip the floor firmly for safety. Corrosion-resistant. Available in 4 types, 47 models.

WITH OR WITHOUT HANDRAILS

For illustrated catalog covering complete line, write to BALLYMORE COMPANY, WEST CHESTER 3, PA.

Call your LOCAL DISTRIBUTOR

BALLYMORE
EQUIPMENT FOR WORKING *Safely* ABOVE FLOOR LEVEL

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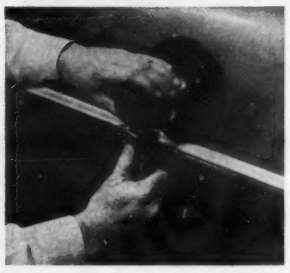
ULTRASONIC CLEANERS
high and medium intensity units

Sonogen Z ultrasonic cleaning system uses a lead zirconate titanate transducer, designed to operate at 25 kc. Both high and medium intensity versions of the system are available in standard tank capacities from 2 to 75 gal, consuming 150 to 2000 w. System can operate as a full-wave system with double the effective power output per unit area of barium titanate transducers. Cleaning units have efficiencies of 90 per cent, maximum operating temperature of 200° F, and flat tuning characteristics. Eight capacities from 2 to 75 gal are offered in high intensity units and six capacities from 5 to 75 gal in medium intensity units. • **Branson Ultrasonic Corp.,** 40 Brown House Rd., Stamford, Conn.

▲ For more details circle NED-634 F on enclosed inquiry slip ▲

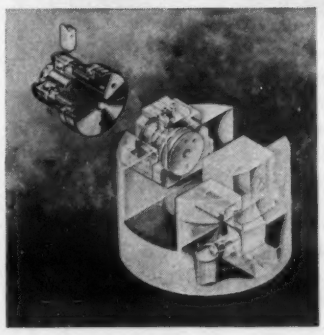
AIR-DRIVEN SANDER
head moves in nonrepeating path



Dual action sanding principle employed by the Model DA air-driven sanding machine produces a scratch-free finish and removes sags or scratches without going through the undercoat. Prime, putty, and surfacer can be sanded dry without loading the abrasive, using grits ranging from 180 to 320. Abrasive travels in a nondirectional pattern in a nonrepeating path, and generates no heat on the surface to soften paint. • **National-Detroit, Inc.,** 2810 Auburn St., Rockford, Ill.

▲ For more details circle NED-635 F on enclosed inquiry slip ▲

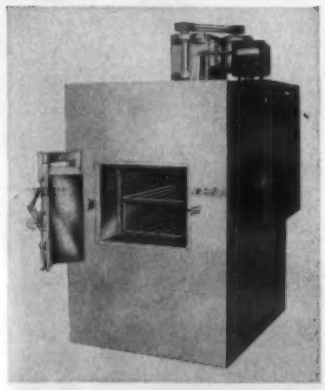
POWER CHUCK
jaws index freely under pressure



Body diameters from 12 to 36 in. are available in this heavy duty power chuck, jaws of which index freely under full pressure without the operator touching the work or releasing the pressure. Jaws are rapidly indexed by means of a lock screw and slide plate. One or both jaws can be furnished with the accurate indexing mechanisms, permitting indexing of more positions and smaller index angles. Index jaws or index components are easily interchanged. • **Skinner Chuck Co.,** Dept. IC-78, 95 Edgewood Ave., New Britain, Conn.

▲ For more details circle NED-636 F on enclosed inquiry slip ▲

HEAT TREAT FURNACE
for temperatures to 1350° F



High air velocity with extra air volume gives penetration to dense loads in this Whirlblast convection type heat treat furnace. It will reach a temperature of 1350° F, and has fast heat recovery and work chamber uniformity. Furnace is used with protective atmospheres for aging and solution heat treatment of aluminum, as well as for brass annealing, magnesium heat treating, tempering, and limited wire annealing. Swinging plug-type door protects operator from hot side. Work chamber sizes range from 18 x 24 x 18 to 42 x 72 x 42 in. and have removable alloy racks. • **Despatch Oven Co.,** 619 S. E. Eighth St., Minneapolis 14, Minn.

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the finest COATED FABRIC WORK GLOVE in the world

SURETY SILVERTEX

To handle those hot, tough jobs nothing equals Surety Silvertex Gloves for longer wear and lower cost. Superior Silvertex coating reflects heat and affords better protection against most industrial chemicals than rubber and standard synthetics. Their curved finger design and wing thumb construction cuts wear and gives greater comfort. And they won't crack or peel—remaining soft and pliable for the life of the glove.

Available in gauntlet, knit wrist, band top and safety cuff styles, all in jumbo sizes and with or without ventilated backs. For a free test pair write on your letterhead, outlining your job requirements. We'll send them to you by return mail.

THE SURETY RUBBER COMPANY
CARROLLTON, OHIO

In Canada: Safety Supply Co., Toronto

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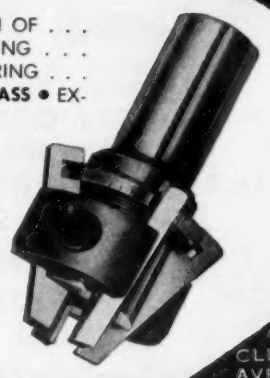
KUTMORE ADJUSTABLE HOLLOW MILLS

Get Speed!
Get Precision!

• ANY COMBINATION OF . . . TURNING . . . TAPERING . . . FACING . . . CHAMFERING . . . TREPANNING IN **ONE PASS** • EXCLUSIVE **MICROMETER** ADJUSTMENT FEATURE FOR RAPID SET-UP • CUTTING CAPACITIES FROM 1/32" TO 2" DIAMETER IN STANDARD STOCK.



Our Engineering Department is at your disposal on your Hollow Mill problems.

1625 CLINTON AVE. NO

CARL WIRTH & SON, INC.

Write For Catalog 20NE

ROCHESTER 5, N. Y.

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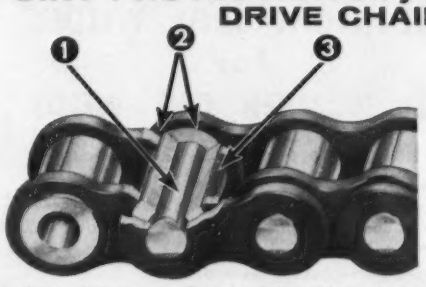
are you getting this 3-POINT PROTECTION on your DRIVE CHAIN?



Whitney MSL (Maximum Service Life) Chain is *lubricated for life* by oil-impregnated sintered steel bushings. With this development, Whitney solves a basic chain problem—*more damage is caused by faulty chain lubrication than by years of normal service.*

Pressure and heat cause built-in lubricant to expand and flow from bushings, providing a constant supply of oil to the 3 critical working areas of the chain:

1. **Pin, where protective film of oil completely lubricates live bearing area between pin and bushing.**
2. **Plates, where bushings extend beyond surface of inside plate to act as lubricated thrust bearing.**
3. **Sprocket engagement, where oil film on exterior surface of MSL Sintered Bushing provides constant lubrication between sprocket teeth and chain. Tough oil film provides smooth sprocket engagement, cushions impact and reduces drive wear.**

Whitney MSL chain conforms to ASA Standards and is completely interchangeable with only similar pitch ASA Standard chain. Carried in stock for immediate delivery by Whitney Distributors. *Write for catalog.*

THE WHITNEY CHAIN COMPANY
a subsidiary of FOOTE BROS. GEAR AND MACHINE CORPORATION
4569 S. Western Blvd., Chicago 9, Ill.

POWER TRANSMISSION DRIVES

▲ For more details circle NED-640 F on enclosed inquiry slip ▲

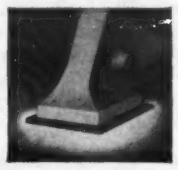
If you can use shears you can

CUT VIBRATION & NOISE

with low-cost MB ISOMODE® PADS!

A pair of shears and a standard package of Isomode Pads...that's all you need to isolate troublesome shock and vibration on as much as 80 tons of machinery.

Made of durable, resilient DuPont neoprene, these ribbed pads support up to 50 lbs. per sq. in.—do an effective job of muffling plant noise and reducing maintenance costs on machines and buildings.



Installation is utter simplicity—simply cut to fit machine feet and install. No waste, no fuss, minimum down time. Write for prices and Application Bulletin No. 415.

MB ELECTRONICS

A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 State Street, New Haven 11, Conn.

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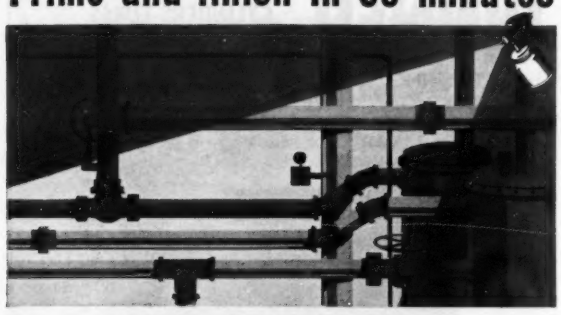
Prime-and-finish in 90 minutes



with Tropical

SPRAY RHINAMEL

Inside or out, Tropical Spray RHINAMEL provides heavy-duty protection for years. Sprays smoothly, easily on wood or metal. Primes, finishes and dries in 90 minutes. Forms a hard, durable, glossy finish. For fast, economical repainting of machinery and equipment of all kinds, use Tropical Spray RHINAMEL! Write for detailed information, today!

Also RHINAMEL . . . *reinforced with Bakelite!* A rugged, hard-gloss, lasting finish. In 30 colors for brush application.

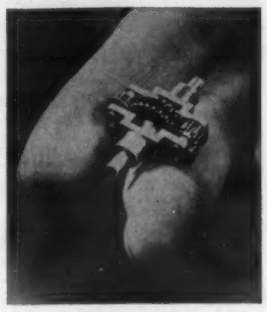
PARKER RUST PROOF PRODUCTS

HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883

TROPICAL PAINT COMPANY
1124-1282 W. 70th, Cleveland 2, Ohio
SUBSIDIARY OF PARKER RUST PROOF COMPANY

▲ For more details circle NED-642 F on enclosed inquiry slip ▲

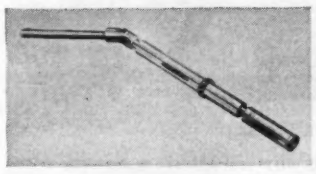
MINIATURE DIFFERENTIALS are low cost, diecast zinc units



Designed to sell for less than 10 cents each, small mechanical differentials are suitable for adding and subtracting shaft movements, for reversing shaft rotation, as variable speed changers, or for clutch and brake service. Made with diecast zinc alloy gears and housings, they are usable wherever high precision is not a primary requisite. Production technique makes possible the production of complex gears and pinions as one-piece elements with intricate external details. • **Gries Reproducer Corp.**, 400 Beechwood Ave., New Rochelle, N. Y.

▲ For more details circle NED-644 F on enclosed inquiry slip ▲

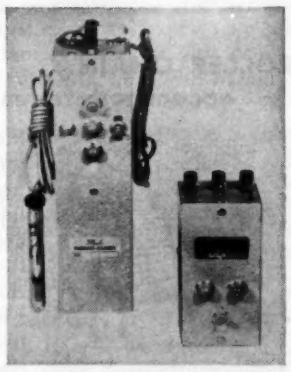
LEAD SCREW TAP SPINDLES in nose diameters of 7/8 to 3 in.



Lead-screw tapping spindles, in the same sleeve diameters as standard slip spindles, are offered in all nose diameters from 7/8 to 3 in. They can be used in machines arranged for drilling and tapping operations, and equipped with jig-bored cluster plates for standard slip spindles. Extra plates are not required. • **Seibert & Sons, Inc.**, Chenoa, Ill.

▲ For more details circle NED-645 F on enclosed inquiry slip ▲

UNSAFE TEMPERATURE ALARM is self-contained, factory preset



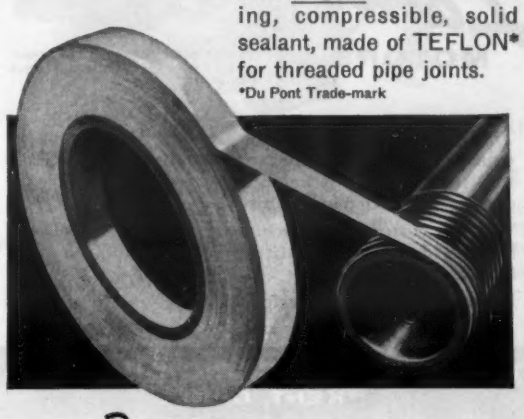
An audible and visual warning of unsafe temperatures in any heated or cooled equipment is reliably given by this electric alarm system. It uses a factory preset mercury thermostat as the sensing element, and includes auxiliary battery power to warn of power failure. Unit plugs into any 115-v ac outlet and mounts with a single screw. A green light shows safe operating temperatures; an audible signal and amber light warn of unsafe high temperature; and an audible signal and red light indicate an unsafe low temperature. The buzzer can be silenced manually, but the light remains on until the unsafe condition is corrected. A remote signal box is optional. • **Mack Electric Devices, Inc.**, Box 98, Wyncote, Pa.

▲ For more details circle NED-646 F on enclosed inquiry slip ▲

• whatever the threaded joint . . . •

NEW **PERMACEL®** RIBBON DOPE
TRADE-MARK
THREAD SEALANT

The original self-lubricating, compressible, solid sealant, made of TEFLON* for threaded pipe joints.
*Du Pont Trade-mark



PERMACEL *New Brunswick, N.J.*
TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

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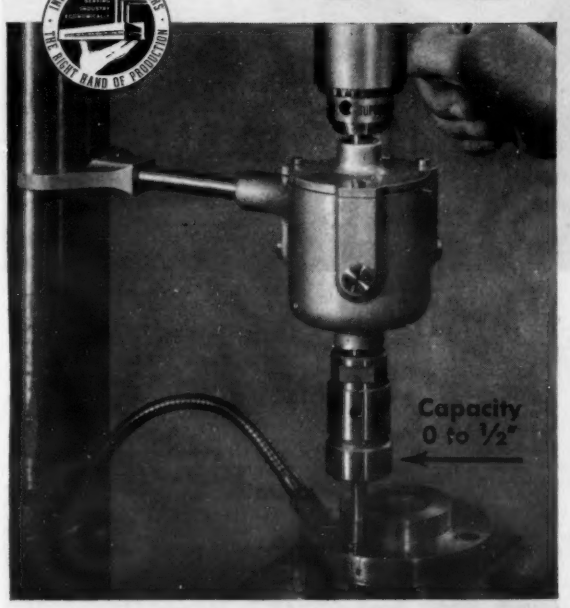
New! FOR THE FIRST TIME 0—1/2" CAPACITY TAPPING HEAD

FOR JUST $63



Supreme VersaTAPPER
DRILL PRESS TAPPING ATTACHMENT

Check VersaTAPPER Features:—

- Capacity 0-1/2"
- Comes complete with tap chuck
- Ball bearing spindle
- Runs in oil
- Fits any drill press
- Fully guaranteed
- Installs in seconds

The new Supreme VersaTAPPER gives tremendous tapping versatility—at a price that is no higher than some hand tapping devices. VersaTAPPER's capacity range is from 0 to 1/2". VersaTAPPER fits *any* drill press. It can be installed or removed in seconds. Why not circle number on reply card and get full information on the VersaTAPPER. Available in two models:—No. 6100, with straight shank for chucking; No. 6200 with No. 2 Morse Taper Arbor for direct installation to drill press spindle. Each model—$63.00.

FROM THE MAKERS OF SUPREME BRAND CHUCKS

Supreme Products Corporation
2222 S. Calumet Avenue, Chicago 16, Illinois
DIVISION OF A•S•R PRODUCTS CORPORATION

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EMI

GET EXACTLY WHAT YOU WANT FROM THE MOST COMPLETE RANGE OF STORAGE AND MATERIAL HANDLING RACKS IN THE INDUSTRY!

Air-Row Head fully adjustable pallet racks.
SNAPS IN, LOCKS IN, NO LOOSE PARTS!

EMI has the most complete range of storage and material handling racks in the industry. Shown here are examples. If you have a special problem, we will design racks to your exact specifications.

METAL WORKING FACILITIES—EMI offers complete metal working facilities including tubular, structural and special shapes.

Round Square Rectangular Step Zee Channel

YOU CAN STACK OR SHIP *ANYTHING* ON EMI RACKS

Write for our complete catalog!

EQUIPMENT MFG. INC.
21550 HOOVER ROAD • DETROIT 5, MICHIGAN

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Actuator motor for automatic supermarket scale. Frame 2⅞ x 1⅜

designed for dependability

Lamb® MOTORS

Heavy duty three-stage gearmotor for pipe threaders. Frame 4⅜ x 2¼

Thorough study by our engineering department of your product and its operating conditions is the first step in designing a Lamb Electric motor that will assure required dependability.

We then custom manufacture the motor on a volume basis to obtain high quality, uniformity and the most favorable cost.

Full information in descriptive folder sent on request.

THE LAMB ELECTRIC COMPANY
KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric—Division of Sangamo Company Ltd.—Leaside, Ontario

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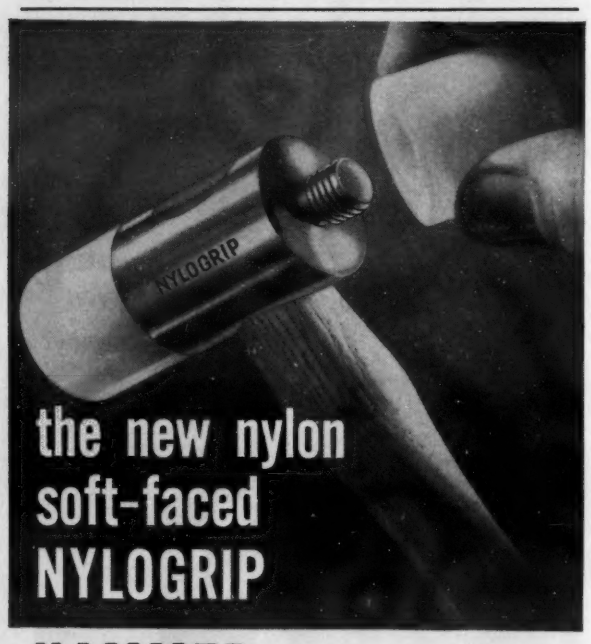

the new nylon soft-faced NYLOGRIP

HAMMER priced from.... $1.55

Compare this new, soft-faced Nylogrip hammer with any you have ever used. Check these features — then check the price.

EXCLUSIVE WITH NYLOGRIP:

Extra rugged Nylon 6 Tips—job tailored to your needs. Screw on, off in seconds. Longest-lasting tips you'll find.
Solid steel head—heft and durability where you need it.
True-balanced wood handles—just naturally feel right without extra weight or loss of safety.
A hammer for every need—no less than 6 weights, sizes!
Lower cost—price is best news of all—as low as $1.55 postpaid!

Use this handy coupon or your own purchase order form.

NYLOGRIP PRODUCTS 568 Pleasant St., Watertown, Mass. WA 6-0100

Send checked items to:
NAME: _____
ADDRESS: _____

Quantity	Hammer Model	Weight Lbs.	Price	Replacement Tips Per Pair
	150	¼	1.55	.60
	200	½	1.70	.60
	300	¾	2.55	1.20
	400	1	2.85	1.20
	600	1½	4.20	1.65
	1000	2¼	7.10	3.70

QUANTITY DISCOUNT:
1-4 hammers...Net — 5-10 hammers...10% — 11 & over...15%
Applies to any assortment of weights.

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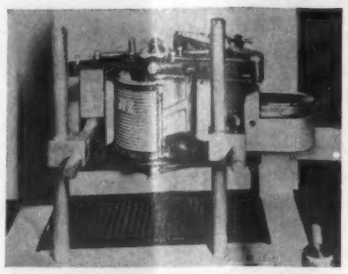
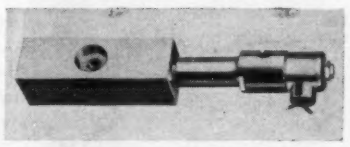
CONVEYOR MARKER
imprints mixed carton sizes on line



Automatic capillary ink feed of the Algene conveyor marker eliminates the need for clean-up at the end of the day. A swivel-action cylinder provides even marking pressure on cartons of mixed sizes, maintaining perfect registration. Marker mounts on the top, bottom, or either side of the conveyor or in a case sealer. Machine shown has a 2⅝ x 7½-in. printing area. Others have areas up to 6 x 18 in. • **Algene Marking Equipment Co.**, 232 Palisade Ave., Garfield, N. J.

▲ For more details circle NED-651 F on enclosed inquiry slip ▲

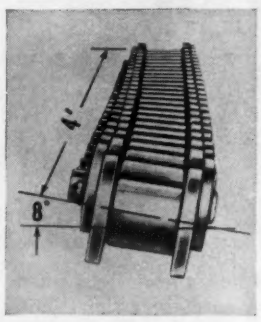
METERING PUMP
is air operated, solenoid controlled



Slug feeding of precise quantities of slurries, adhesives, pastes, greases, and other viscous liquids and semiliquids is handled readily with this air actuated, solenoid controlled positive-displacement pump. Capacity is infinitely adjustable from 0 to 6.44 cc per stroke against pressures to 354 psi. It is usable for proportioning and other controlled feeding operations. Bores are 1, 1⅛, and 1½ in. with stroke adjustable from 0 to 2 in., and pumps will operate on air pressure up to 200 psi. Parts in contact with fluid can be of material to meet any requirement. • **Airmatic Valve, Inc.**, 7313 Associate Ave., Cleveland 9, Ohio.

▲ For more details circle NED-652 F on enclosed inquiry slip ▲

ROLLER CHAIN
accommodates misalignment



Extra clearance between linkplates, pins, and bushings permits up to 4 in. of lateral displacement and 8 degrees of twist for each 4-ft portion of Tuf-Flex roller chain. Design accommodates sprocket misalignment and minimizes stiffness after periods of idleness. Straight linkplates withstand high shock and peak loading. Offset connecting links are easily installed because a drive fit is required through only one linkplate. Four pitch sizes meet both Military and ASA specifications and permit installation on sprockets cut for offset sidebar chain and standard roller chain. • **Diamond Chain Co.**, 402 Kentucky Ave., Indianapolis 7, Ind.

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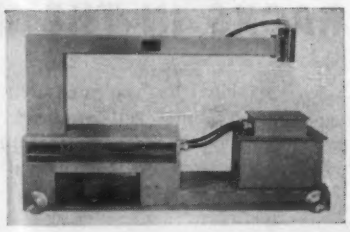
METAL SHEET CLASSIFIER
x-ray unit categorizes, marks and stacks sheets all by gage



Starting with a stack of various gage metal sheets, this x-ray classifier classifies the sheets into different gage ranges, marks each piece with a gage number, and stacks them by gage as desired. Unit will operate as fast as automatic feeder and single conveyor can move the sheets. X-ray monitor, acting as an electronic micrometer, emits measurement signals and, through an analysis control, activates servomechanisms to mark the sheets and sort them into stacking bins. Marking device, placed downline from gage, is pneumatically activated.

In the XactRAY gaging system illustrated, one gage measuring down the centerline, or two gages on motorized carriages positioned to left and right over conveyor belt, supply the average thickness reading. Up to 25 classifications can be set up, and under or over tolerance sheets are rejected. Category variations finer than ±0.0001 in. can be achieved. • **Daystrom, Inc.**, Weston Instruments Div., 614 Frelinghuysen Ave., Newark 12, N. J.

▲ For more details circle NED-654 F on enclosed inquiry slip ▲

NEW

Airfeedrill® with aircheck feed control

Now it's easy and inexpensive to automate drilling such materials as plastics, wood, aluminum, steel, cast iron and sheet metal. Engineer an automatic drilling setup with new Gardner-Denver "Airfeedrills" with aircheck feed control. These versatile drills are easily adaptable to almost any drilling setup. But find out for yourself how quickly and economically you can automate *your* precision drilling operations. See your Gardner-Denver representative or write for free Bulletin 92-121.

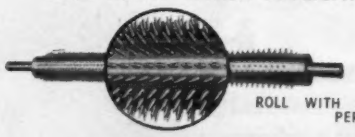
EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

GARDNER-DENVER

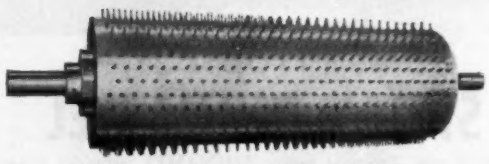
▲ For more details circle NED-655 F on enclosed inquiry slip ▲

PINNED CYLINDERS-TUBES ROLLS-SHAFTS

For—CRUSHING, PICKING, PERFORATING PRICKING, CONVEYING, TEARING, MIXING AND MANY OTHER APPLICATIONS

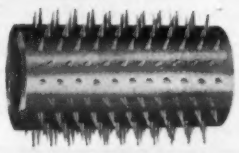


ROLL WITH SHARP POINTS FOR PERFORATING



LARGE DIA. CYLINDER WITH MANY POINTS FOR SCRATCHING, TEARING, ETC.

TUBE WITH MANY SHARP POINTS MADE TO SLIP OVER SHAFTING. USED TO PERFORATE, SHRED, TEAR, ETC.



SEND FOR PIN ROLL & CYL BROCHURE #60

Our Products are Made to Suit Your Exact Requirements—Contact Us Today

ROBERT A. MAIN & SONS, INC.
501 W. MAIN ST. WYCKOFF, N. J.

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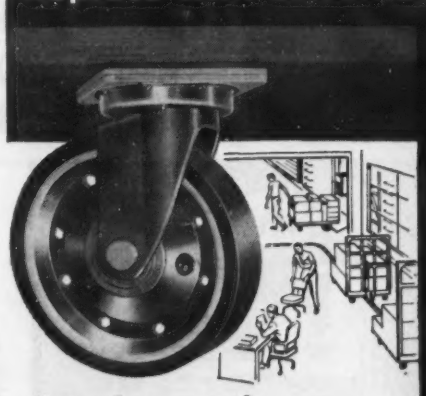
Replace with Colson Casters



Speed up work . . .
Eliminate breakdowns
Save floor damage

Send for new Colson catalog C101 . . . contains over 2000 job rated test proven money saving Casters.

Colson

Contact your local representative or distributor or write to

COLSON'S 75th YEAR OF PROGRESS

THE COLSON CORPORATION
7 S. Dearborn Street CHICAGO, ILLINOIS

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P&S TURNLOK

Built to Take It

P&S TURNLOK wiring devices are designed to give trouble-free service no matter how tough the going gets. TURNLOK devices are available in 10 and 20 Amperes, 2-, 3-, and 4-wire types: receptacles, connectors and caps.

PERFORMANCE SPECIFIED

For information about P&S TURNLOK Line, write Dept. NED-66.

P&S PASS & SEYMOUR, INC. SYRACUSE 9, NEW YORK

60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill. In Canada: Renfrew Electric Co., Ltd., Toronto, Ontario

▲ For more details circle NED-658 F on enclosed inquiry slip ▲

PARTS FEEDING BY AUTOMATION

...feeds dollars into your profit column

In costing today's high speed production it makes sense if you increase production without adding direct labor, the dollars show up in profit . . . fast!

Since AD equipment is self liquidating with labor savings it also adds dollars in earnings all along the line.

Let any one of AUTOMATION DEVICES' sales engineers, located throughout the country, help you streamline your production facilities and you'll add dollars to your profit.

Send for informative literature and the name of nearest AD representative.

✱ 60

PESCO & VFC DIVISIONS ...TWO GREAT NAMES IN PARTS FEEDING

AUTOMATION DEVICES INC. ERIE, PENNSYLVANIA

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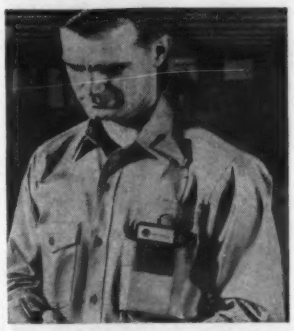
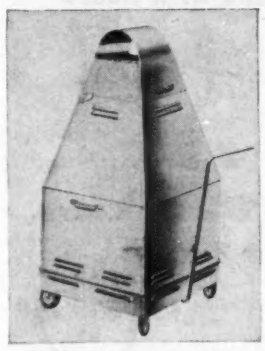
SHIRT-POCKET RADIO for industrial communications



Transistorized with miniaturized printed circuitry, Voice Director personal radio communications receiver weighs only 12 oz, including battery. Using 35 per cent less battery power than previous models, it is suitable for indoor and outdoor voice paging by means of a base station or portable transmitter. Initially, frequencies will be in the 150 to 174-mc range. It is powered by a 6½-v long-life battery. When privacy is not required, a tiny directive horn can be clipped to the wearer's lapel. An ear-piece is available for private listening. Adjustable volume and squelch controls are flush-mounted on top of the shirt-pocket receiver. • **General Electric Co.**, Communication Products Dept., Lynchburg, Va.

▲ For more details circle NED-660 F on enclosed inquiry slip ▲

OUTDOOR INCINERATOR also serves as trash receptacle



Waste paper, packing, cartons, sweepings, rags, and other types of burnable refuse are reduced to fine ash in this combination incinerator and trash receptacle. The mobile unit has 6-in. wheels and a pull handle for pulling it to a safe area for burning. Its design allows safe use outdoors within 10 ft of buildings. Draft control permits burning of damp, green, or dry refuse without blowing burning fragments, and with a minimum of smoke and smell. The 6-bushel Model F6W is made of aluminized steel with a hinged hood. It is 53 in. high excluding wheel attachments and is 24 in. square. Price is $75. • **Alsto Co.**, 4007 Detroit Ave., Cleveland 13, Ohio.

▲ For more details circle NED-661 F on enclosed inquiry slip ▲

ROLLER BEARINGS for ½ to 2-in. diameter shafts

Two series of cage type roller bearings for high radial capacity applications have relieved square-end rollers retained in tubular steel cages for alignment while running. The MC Series is interchangeable with needle bearings in ½ to 2-in. shaft sizes. The new HS Series provides high load capacity and is usable where larger radial space is available. It is made in 1 to 2-in. shaft diameters. • **Orange Roller Bearing Co.**, 557 Main St., Orange, N. J.

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DRY FILM ADHESIVES bond metal and plastic assemblies

Uniform thickness throughout the joint, controlled confinement to the bonding area, clean bonding operations, and simple application procedures are features of four Scotch-Weld structural film adhesives for metal and plastics. The high strength, elastomer-phenolic, thermosetting, dry bonding products are available in various widths and thicknesses, and can be die cut in complicated shapes. Shear strengths range from 3040 to 4180 psi and peel strengths from 55 to 110 lb per square inch of width at 75° F. Service temperature ranges for the four products are −70 to 180° F and −67 to 300° F. All resist water, 20 per cent salt spray, hydraulic oil, and aromatic fuels. Maximum strength is obtained with an optimum cure of 1 hr at 350° F under 100 psi. • **Minnesota Mining & Mfg. Co.**, 900 Bush Ave., St. Paul 6, Minn.

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SHOPMOBILE

PAYS FOR ITSELF IN 90 DAYS!

SAVES MANY HOURS OF MAINTENANCE TIME—SAVES TRIPS—SPEEDS WORK

Only $249.00

F.O.B. Factory, Cardington, Ohio

Finish Painted, Ready to Operate

TAKE THE WORKSHOP TO THE WORK!

SHOPMOBILE is an all-steel welded workshop on wheels with roomy storage compartments that can be locked and workbench surfaces at working height.

MECHANIZE YOUR MAINTENANCE DEPARTMENTS! WRITE TODAY FOR FULL INFORMATION.

STAHL METAL PRODUCTS, INC.

4750 W. 160th ST. • CLEVELAND 35, OHIO

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TRICKY BENDS ARE NO TRICK

With Pedrick Production Benders any bend is an easy bend—fast and economical, too! Pipe, tubing, bus bar or structural metal—*bend with Pedrick.*

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"You'll profit by reading the NEW PEDRICK LINE BULLETIN. Write today."

BEND WITH PEDRICK

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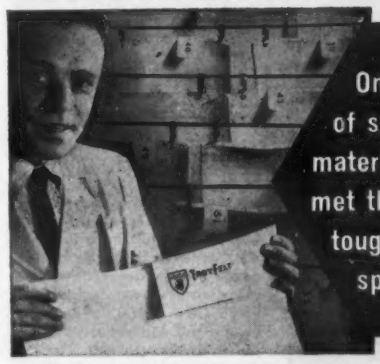

Only one of sixty materials met these tough filter specifications!

TROYFELT, a non-woven synthetic Dacron, gave best performance in military vehicle

To meet such rigid military filter specifications as 100% filtering efficiency in heavy dust conditions in sub-zero to tropical temperature extremes with resistance to oil, moisture, rot and mildew, sixty materials were tried and only one, Troyfelt, met the test as the filter on an engine intake air cleaner.

This success was due to Troyfelt's mechanically interlocked fiber construction. The absence of chemical binders or binder fibers prevents blinding and the structure gives Troyfelt unusually high, long-lived strength, excellent resistance to fungi and bacterial growth, chemicals, moisture, oil, abrasion, stability to temperature extremes.

Write for our bulletin describing other filter applications as well as applications on insulators, seals, padding, packings, gaskets and many others.

TROYFELT . . . *by the pioneers of non-woven synthetic felts*

INDUSTRIAL PRODUCTS DIV. • TROY BLANKET MILLS
200 Madison Avenue • New York 16, N. Y.

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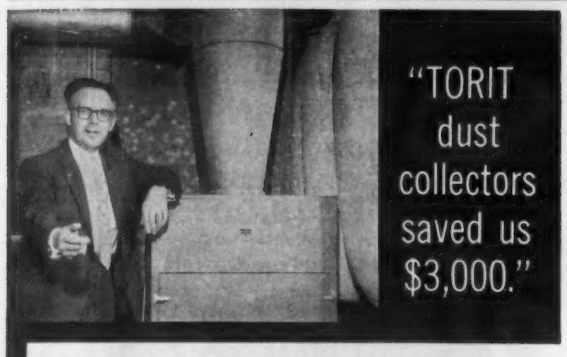

FREE BOOKLET shows you how to trap harmful dust better at less cost with TORIT.

Your plant can have the same initial savings and cost-cutting operation now enjoyed by the Sico Manufacturing Company, national producers of tables and seating equipment. Sico President, Kermit H. Wilson states, ". . the lowest bid we had for a central dust collection system of minimum capacity was just under $4,000. Our $900 Torit installation has completely solved our dust problem and gives us greater flexibility than would be possible with a central system." There's a TORIT Collector to meet every type of dust problem, why not investigate?

FREE facts on TORIT DUST COLLECTORS that reduce maintenance costs, up production, improve employee morale. Write today to:

TORIT MANUFACTURING CO.
1133 Rankin Street, St. Paul 2, Minn., Dept. 202

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NEW BALANCED CUTTING ACTION
Severance ECARNO-MILLS
THE ECONOMY MILL NEW DESIGN NEW CARBIDE

Made by the originator of ground-from-the-solid Rotary Files, and pioneer in this type of Carbide Mill, who presently offer the largest range of standard types, shapes, and sizes.

YOUR SPECIAL DEBURRING PROBLEMS ARE SOLICITED

OPERATE EFFICIENTLY AT USUAL CARBIDE SPEEDS, YET PERFORM BEAUTIFULLY AT THE SLOWER SPEEDS OF STEEL CUTTERS

CAN BE REGROUND REPEATEDLY

PHONE, WIRE, OR WRITE US NOW FOR PRICES

Severance TOOL INDUSTRIES INC.
761 Iowa Ave., Saginaw, Michigan
Ask for a Severance catalog today!

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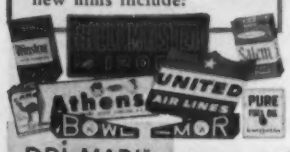
ANNOUNCING . . . THE LATEST ADDITION TO OUR FAMILY OF QUALITY PRODUCTS—

MEYERCORD DRI-MARK FILMS

DRI-MARK . . . is Meyercord's newly perfected line of PRESSURE SENSITIVE signs and trade marks produced as durable Truck Signs, Window Signs, Nameplates and Product Markings. These startling new films include:

These high tensile strength PRESSURE SENSITIVE films and laminates give the greatest possible latitude and flexibility to the Meyercord line of products, adaptable to all of your sign needs . . . processed with Meyercord's own exclusive PRESSURE SENSITIVE adhesive and Meyercord's in-plant Research, Art, Production and Service facilities. *Remember, when it's DRI-MARK it's Meyercord!*



DRI-MARK DECAL
DRI-MARK VINYL
DRI-MARK MIRRO-CAL
DRI-MARK MIRRO-CAL
DRI-MARK CLEAR MYLAR
DRI-MARK OUTDOOR PAPER

with MEYERCORD **COLORGARD 70**
Now . . . all Meyercord DRI-MARK films are protected by COLORGARD 70...Meyercord's exclusive laboratory-developed and perfected clear top coat—the toughest, most durable coat yet produced for the Decal and transferable film industry. Thoroughly tested! Two years in actual use!

Whatever your sign needs, you owe it to yourself to investigate Meyercord's complete line of products. Our factory trained representatives will be glad to assist you in the proper selection of markings for any particular requirement. *Write today.*

the MEYERCORD co.
Dept. K-316, 5323 West Lake Street, Chicago 44, Illinois

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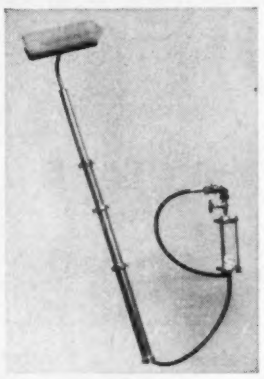
CARTRIDGE INSERT VALVES
become integral part of equipment

Quickly and easily installed in machined cavities in devices which they control, Humphrey cartridge type insert valves are made in 1/8 and 1/4-in. sizes for two and three-way service. By using them inside pneumatic or hydraulic cylinders, manifolds, control handles, or other devices, a minimum of plumbing is required in multiple installations. As many as 15 valves can be combined into a single module that is only a few inches square, fed by a single supply line and with a common exhaust. The quick-opening, positive dead-seal closing valves with a built-in quick exhaust are capable of continuous cycling at speeds up to 30,000 per hour in heavy duty service. • **General Gas Light Co.**, Humphrey Products Div., 202-12 N. Park St., Kalamazoo, Mich.

▲ For more details circle NED-670 F on enclosed inquiry slip ▲

TELESCOPIC WINDOW WASHER
will reach fourth and fifth floors



Wide flaring brushes on the Model 6½ window washer will clean the corners and trim of windows, as well as the panes themselves. It enables the user to wash windows at heights up to 66 ft while standing on the ground. The telescopic handles can be reduced and separated so that the same model will wash basement, first, second, and third floor windows, as well as those on the fourth and fifth floors. Compressed detergent tablets used in a dispenser attachment will last for one-half day of continuous washing. • **Tucker Mfg. Co.**, 112 Fourth Ave. S.E., Cedar Rapids, Iowa.

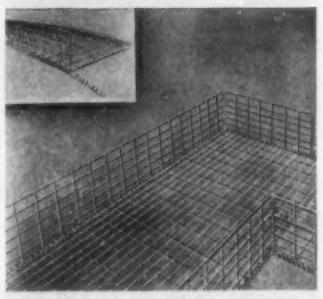
▲ For more details circle NED-671 F on enclosed inquiry slip ▲

HIGH SPEED BALANCES
for small capacity weighing

Weight readings are indicated with a sharp, shadow-edge light projection on the large illuminated dial of Series K general purpose precision balances. Weighing pan is made in various stainless steel and plastic designs. Built-in mechanical weights are positioned on the beam by dialing the desired weight. Samples can also be weighed on commodity pans suspended below the balance. Three available capacities are: 800, 2000, and 4000 grams, with 1/10, 1, and 1-gram graduations, respectively. Dials reading in pounds, grains, or pennyweight are also available. • **Exact Weight Scale Co.**, 541 E. Town St., Columbus 15, Ohio.

▲ For more details circle NED-672 F on enclosed inquiry slip ▲

MESH CONVEYOR GUARDS
8-ft sections ready to install



Lightweight welded wire mesh conveyor guard is offered in standard 8-ft ready-to-install sections ranging in width from 2 to 6 ft in 2-in. multiples. Side heights from 1 to 4 ft are standard. Installation is made with only pliers and wire cutters to protect conveyor lines with straight or inclined runs and 90-degree turns. Bottom sections are joined to side sections at the factory with No. 8 gage helixes. Sections are also joined to adjacent sections by helixes, and special hanger clips are furnished. Mesh has a bright aluminum dipped or special color finish. • **Springport Steel Products Co.**, Springport, Mich.

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MRC PILLOW BLOCKS and FLANGE UNITS with Labri-Seal® BALL BEARINGS

NEW MRC *Labri Seals®* combine the advantages of
→ a rotating flinger
→ labyrinth seal
→ positive contact synthetic rubber seal

SELF ALIGNING
POSITIVELY LOCKING
PERMANENTLY LUBRICATED

Write for FORM 1550 8 pages 8½"x11"

MARLIN-ROCKWELL CORPORATION
Jamestown, N.Y.

MRC BALL AND ROLLER *bearings*

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BECKER *Keen-Cut* Electrodes
for use in
CARBON ARC-AIR JET GOUGING

KEEN-CUTS—for the best characteristics of carbon and graphite in a carbon arc cutting electrode. Higher current capacity . . . longer life . . . shorter cutting time . . . greater material removal . . . smooth surface gouge . . . controllable accuracy . . . hot stable cutting arc . . . elimination of smoke and gases.

And they're low in cost. Try BECKER KEEN-CUT ELECTRODES—black or copper coated, standard diameters, 12" lengths in 150 to 1400 amp. range—for the most efficient, labor-saving electrode in carbon arc/compressed air cutting.

A COMPLETE LINE OF CARBON AND GRAPHITE WELDING SUPPLIES—carbon and graphite electrodes, carbon rods and plates, welding paste, graphite cores and chills, graphite powder and particles of any mesh.

Write for catalog.

BECKER BROTHERS CARBON CO.
3454 South Laramie Ave. • Cicero 50, Illinois
Telephone: BI 2-1260 • Chicago

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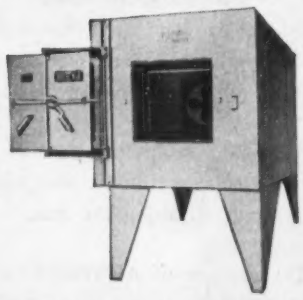
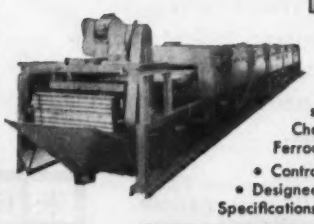
ELECTRIC FURNACES
Uniform, *Controlled* Heat to 2700°



ANNEALING FURNACES specially designed for Glass and Steel applications in production and laboratory. Temperature range up to 1400°F.



CONVEYOR FURNACES for Glass Annealing, Baking Resistors, Ceramic Molding, Chemical Drying, Annealing Ferrous and Non-Ferrous Metals.
• Controlled Heat up to 1850°F.!
• Designed and Built to Your Specifications!

WRITE FOR BULLETIN 75-TC.

TRENT INC.
Electrically Heated Industrial Equipment
251 LEVERINGTON AVE., PHILADELPHIA 27, PA.
In Canada Supreme Power Supplies Limited, Toronto 14

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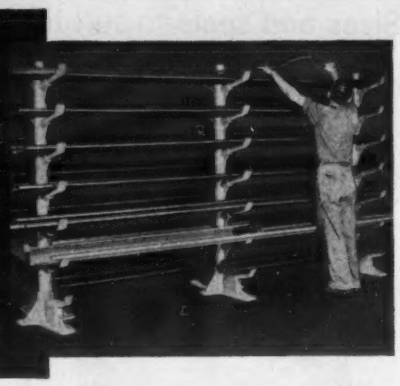
SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane — using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

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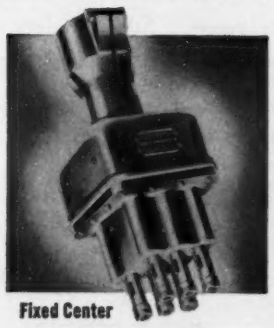
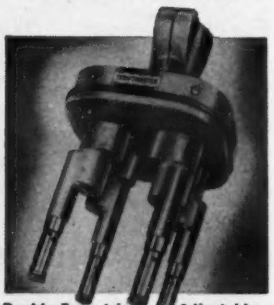
THOMSON THRIFTMASTER DRILLHEADS

RUGGED to full tool capacity!

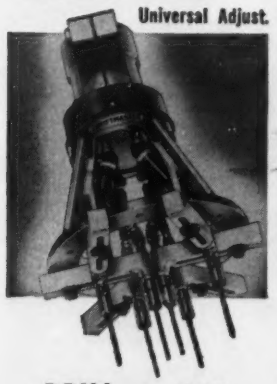
FOR LONG WORKING LIFE
ELIMINATE DOWNTIME & PRODUCTION LOSSES!



Fixed Center



Double Eccentric Adjustable



Universal Adjust.

Eccentric Adjustable

DRILL • TAP
REAM • BORE
COUNTER-SINK
COUNTER-BORE
FACE

Tremendous economies from the use of multiple-spindle drillheads are obvious. Use THOMSON THRIFTMASTER Drillheads for optimum performance and profits.

Ask NOW for our new catalog.

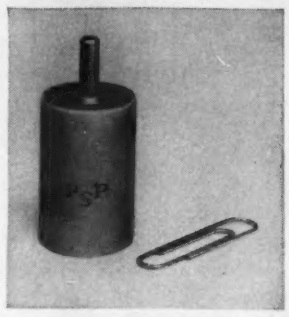
THRIFTMASTER PRODUCTS CORPORATION

1028 NORTH PLUM ST.
LANCASTER, PENNA.
EXpress 2-2101

Subsidiary of THOMSON INDUSTRIES, INC. makers of BALL BUSHINGS NYLINERS 60 Case Shafting

▲ For more details circle NED-678 F on enclosed inquiry slip ▲

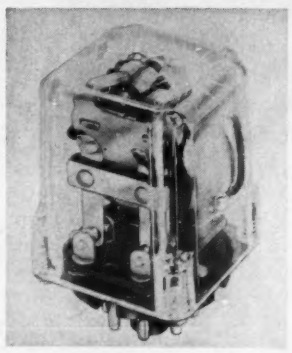
ROTARY DC SOLENOIDS
in 0 to 60-degree stroke lengths



High torque and precise rotary motion are combined in PSP rotary direct-current solenoids designed to operate in high temperatures and pressurized mechanisms. Units are suited for installations where no axial travel of output shaft can be tolerated, or where rotary stroke may be externally stopped. They are offered in sizes 8, 10, 13, 15, and 18, in any stroke length from 0 to 60 degrees, clockwise or counterclockwise rotation. Operating voltages range from 6 to 300 v dc. Internal rectification can be supplied for using alternating current. • **PSP Engineering Co.**, 6058 Walker Ave., Maywood, Calif.

▲ For more details circle NED-679 F on enclosed inquiry slip ▲

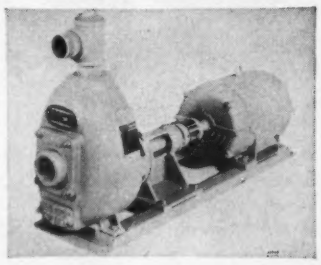
GENERAL PURPOSE RELAY
has built-in neon indicator lamp



Transparent cellulose acetate dust cover permits viewing the neon indicator lamp and contacts of the KRP-N Series general purpose relay. The built-in lamp indicates current availability. Relay is made for 6 to 110-v dc and 6 to 230-v ac operation with 10-amp silver cadmium contacts. Contact arrangements are available up to three-pole double-throw. Over-all dimensions, not including plug, are 2 in. high by 1 13/32 in. square. Octal plug terminals are standard. • **American Machine & Foundry Co.**, Potter & Brumfield Div., 270 N. Main St., Princeton, Ind.

▲ For more details circle NED-680 F on enclosed inquiry slip ▲

SELF-PRIMING PUMPS
line includes ½ to 10-in. sizes



High head, high capacity Rice self-priming pumps have Timken tapered roller bearings, hardened steel wear plates, and a cartridge type shaft seal which is sleeve mounted and automatically adjusts itself for wear. A renewable sleeve protects the pump shaft. Pumps have a built-in suction check valve and are available for belt drive or direct flexible coupling in water or petroleum service. The 1½ to 10-in. pumps require 3 to 100 hp and have discharges from 90 to 3100 gpm at 10-ft suction and 6.49-psi discharge pressure. • **Rice Pump & Machine Co.**, Belgium, Wis.

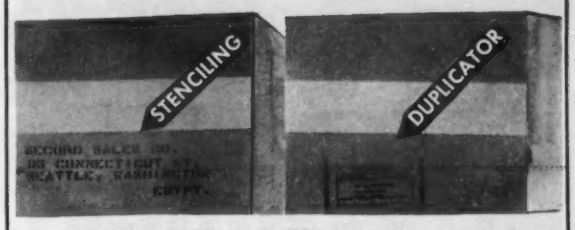
▲ For more details circle NED-681 F on enclosed inquiry slip ▲

FORK LIFT TRUCK
handles 6000 lb on 24-in. center

Heavy duty Timken combination transmission and drive axle provides the F6-W fork lift truck with a choice of four speeds forward and four speeds reverse. A Continental F-226 engine develops 73 hp at 2400 rpm and delivers 178 lb-ft of torque at 1200 rpm. Truck has a rated capacity of 6000 lb at 24-in. load center. Two drive wheels mount 12-ply lug tread 8.25 x 15 pneumatic tires for outdoor yard work. Dual drive wheels are optional. Steering wheels have 10-ply highway tread 7.50 x 15 tires. Power steering is standard on the short turning radius truck. Photo shows forks swung up alongside the mast for towing the truck from job to job. • **Erickson Power Lift Trucks, Inc.**, 239 St. Anthony Blvd. N.E., Minneapolis 18, Minn.

▲ For more details circle NED-682 F on enclosed inquiry slip ▲

HAVE YOU CHECKED THE READABILITY OF YOUR SHIPMENT ADDRESSING LATELY?



COMPARISON OF READABILITY FROM A DISTANCE OF SIX FEET.

In this day of increased freight rates caused by freight claims due to lost shipments it's time to take a close look at your shipment addressing. Are you getting clear, readable, large letter results? If not you should be interested in better addressing through the use of machine cut stencils. Keep this in mind — regardless of how you apply your address — it must be read easily by freight handlers.

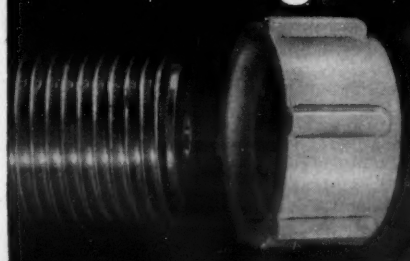
IT'S THE RESULT THAT COUNTS

For a peek into what improper marking is costing you send for this FREE booklet of facts today.

WRITE TO
DIAGRAPH-BRADLEY INDUSTRIES, INC.
P. O. BOX 369 HERRIN, ILL.

▲ For more details circle NED-683 F on enclosed inquiry slip ▲

This S. S. White PLASTIC PROTECTOR COSTS 3c



Yet might save you **thousands** of dollars and needless delay.

For mere pennies you insure yourself *and your customer* against damage to your products during shipping, storage, processing. The economic facts are that simple.

S. S. White rigid acetate **Quality Line**, plastic protectors absorb blows like a Champion Heavy-Weight. Impervious to acids, alkalies, greases and oils, they seal in fluids, seal out dirt, dust, and anything else that might damage expensive equipment. Note this too . . . they remove *by hand* in a matter of seconds . . . and leave no shreds behind.

For even lower cost protection, look into S. S. White **Economy Line** elastic vinyl protectors. A good shock-absorbing, rubber-like material with a non-slip grip that makes removal a snap. Stays put too. Customers like this; saves them hours of production time.

Start buttoning up customer good will today . . .

WRITE FOR FREE BULLETIN
5708 and Samples

S. S. White PLASTICS DIVISION

Dept. 7P, 10 East 40th Street, New York 16, N. Y.

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MITY-MIDGET

Cut sanding costs as much as 75% (over hand sanding), with National's Mity-Midget . . . the original orbital action sander. Weighs only 4 lbs . . . yet has 25 sq. in. of abrasive area. Powerful . . . vibrationless. Write for complete catalog, today.

Write for complete catalog
NATIONAL-DETROIT, INC.
ROCKFORD, ILLINOIS

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Measures Nonmagnetic Coatings with ± 5% ± .0001" accuracy

NEW pocket-size THICKNESS GAUGE

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other nonmagnetic coatings—quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle-locking device assures correct reading every time. Available in twelve scale ranges with contact spheres, "V" block, or flat bases.

Complete with tough leather case, containing inner pocket for test strips, and carrying harness. Weighs only 6 oz. ONLY $83.75 F.O.B. Cleveland

WRITE FOR ILLUSTRATED FOLDER
FERRO CORPORATION
4150 East 56th Street • Cleveland 5, Ohio

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Need an original equipment VACUUM PUMP?

See how GAST cuts your costs

Above (1) is basic Model 1550 Vacuum Pump—(one of 13 sizes). For active customers, Gast builds this model in dozens of variations. Specific needs are met for vacuum, pressure, lubrication, drive and type of service.

For example, (2) is equipped for general purpose vacuum. (3) provides both vacuum and pressure for paper feeding. (4) oil-less model has carbon vanes; never needs oil. (5) has new constant level oiler for rigorous industrial duty.

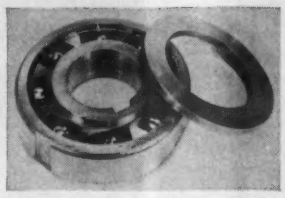
You save because Gast *ingenuity* and *tooling and manufacturing efficiency* permit high quality at production prices.

WRITE FOR FULL DETAILS—REQUEST CATALOG
Gast Manufacturing Corp., P. O. Box 117-R, Benton Harbor, Mich.

GAST ROTARY
• AIR MOTORS TO 7 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.
"Air may be your answer!"

▲ For more details circle NED-690 F on enclosed inquiry slip ▲

BACK STOP & CLUTCH
for power transmission equipment



Balls are employed as power transmission members in the Odin back stop and clutch. When free-wheeling, their spinning and rolling motion results in a minimum of drag. They are usable in most types of power transmission equipment. Sizes for shaft diameters from 1/8 to 1 1/2 in. are standard, and units for up to 5-in. diameter shafts are special. Neoprene backlash pads vary in hardness for different types of service. Normal torque from 0.5 to 1600 lb-in. and 0.014 to 44.5 hp at 1750 rpm are handled in standard sizes. Over-all diameters range from 0.748 to 3.543 in. • **Odin Corp.**, Castleton, Ind.

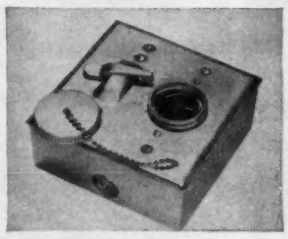
▲ For more details circle NED-691 F on enclosed inquiry slip ▲

REGISTERING WATER METERS
100 and 160-gpm models added to line

The 1 1/2 and 2-in., sealed register, water meters added to the previously available 5/8, 3/4, and 1-in. models also feature a magnetic drive and the oscillating piston principle. Line now includes capacities of 20, 30, 50, 100, and 160 gpm. Hermetic sealing of register prevents dirt and water entry and eliminates dial-fogging condensation. Straight reading register is calibrated in cubic feet or gallons and has a center sweephand. • **Rockwell Mfg. Co.**, Municipal & Utility Div., 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-692 F on enclosed inquiry slip ▲

ELECTRONIC SWITCH
photocell turns lights on and off



Model LTS 104 automatic electronic switch is intended for outdoor lighting control requiring emergency switch provision. It handles up to 1000-w loads and is suited for airstrip, industrial plant, and other lighting. Completely weatherproof unit switches light on at dusk and off at dawn. A chained screw-cap is provided for daylight tests, and a built-in delay acts to avoid accidental switching. Switch features hermetically sealed photoelectric control, a T-rated emergency on-off switch, and 2 1/2-in. plugs. • **Solar Sonic Devices, Inc.**, Hicksville, L. I., N. Y.

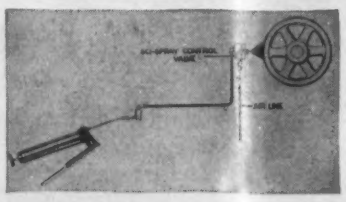
▲ For more details circle NED-693 F on enclosed inquiry slip ▲

BANDSAW BLADE
made of high speed steel

All types of ferrous metal are cut by the Super high speed steel bandsaw blade. Made of a Simonds-developed steel, the blade is furnished welded to length, and individually packaged in all standard widths, thicknesses, and tooth types. • **Simonds Saw & Steel Co.**, Fitchburg, Mass.

▲ For more details circle NED-694 F on enclosed inquiry slip ▲

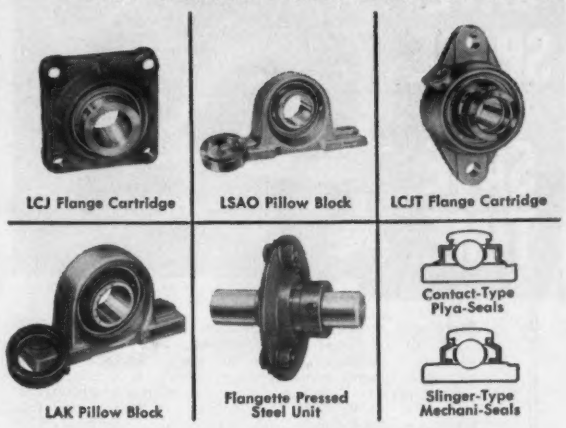
GEAR LUBRICATOR
spray unit for inaccessible gearing



Inexpensive and efficient method of lubricating single, heavy duty, inaccessible gears is provided by this spray system consisting of a hand grease gun attached to a conveniently located fitting. Lubricant is sprayed as long as pumping is continued. Air and lubricant, each under separate pressure, are forced through the spray nozzle. When lubricant flow ceases, the spray control valve closes and air supply is shut off. • **Eaton Mfg. Co.**, Farval Div., 3300 E. 80th St., Cleveland 4, Ohio.

▲ For more details circle NED-695 F on enclosed inquiry slip ▲

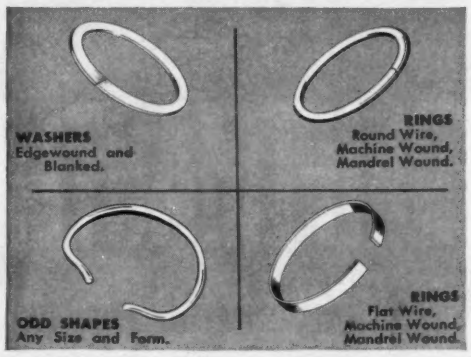
Sizes and seals to suit the service . . . Fafnir Power Transmission Units!



Whatever your dimensional requirements, shaft sizes, speeds, loads, or service conditions, Fafnir Power Transmission Units offer job-designed answers to your needs. This complete line of cast iron and pressed steel precision ball bearing "economy packages" is engineered to top-quality standards for long, dependable service life. Each is equipped with the Fafnir-originated self-locking bearing collar — fastest, simplest, surest device ever developed for securing bearings to shafts. Call your Authorized Fafnir Distributor — or the Fafnir branch office serving your area — for a catalog. Or write The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS

▲ For more details circle NED-696 F on enclosed inquiry slip ▲



Solder preforms

Silver Copper Aluminum Soft Solders

Write for 16 page booklet on better brazing.

1. End Wasted Time In Placing Solder in position for brazing.
2. Speed Assembly Work.
3. Eliminate Rejects.
4. Meter Solder to Flow In and Around Joints.

LUCAS-MILHAUPT Engineering Co.
5070 South Lake Drive, Cudahy, Wisconsin

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"Who's best at meeting SPECS for short run stampings?"

Freddy Federal says:

"Every stamping job you give us, big or small, tough or easy, gets Federal's continuous step-by-step inspection. Highly skilled tool makers use exclusive Federal techniques to make dies for your stampings, with an accuracy equal or superior to ordinary methods, at a cost savings up to 80%. Federal has the special equipment and experience needed to meet your particular stamping tolerance and design requirements. Added to this is the personal interest of Federal craftsmen who take great pride in having their work please you. Try us today by sending your part or print for a prompt airmail quotation. If time is short, just ask for a reply by phone or wire. Let Federal stampings meet your specs!"

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SHORT RUN STAMPINGS
3 PLANTS To Serve You Better

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FEDERAL SHORT RUN STAMPING, INC. 918 Lyell Avenue Rochester 6, New York
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DODGE STEEL CONVEYOR PULLEYS

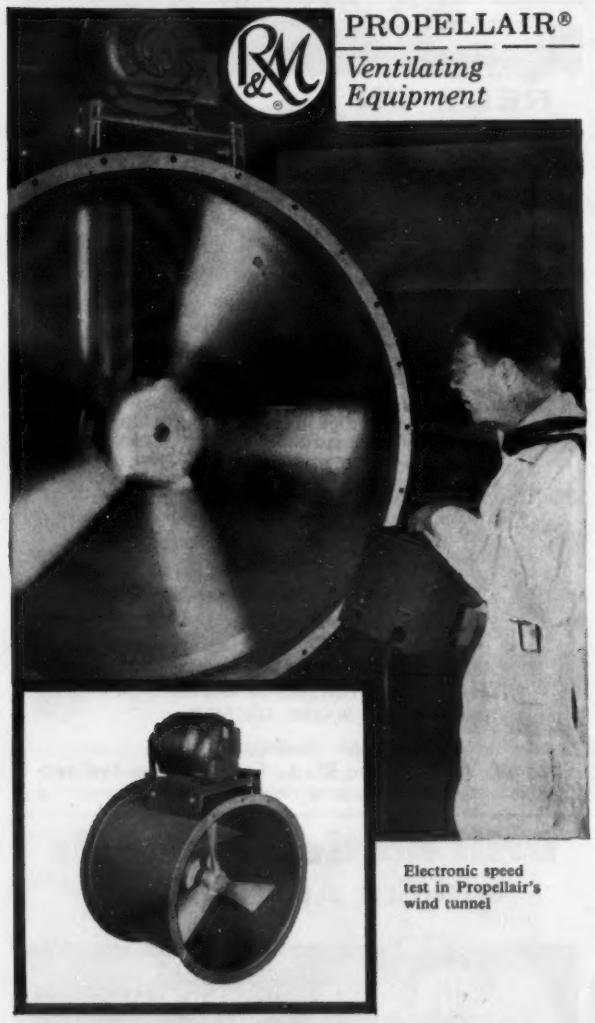
Impact Strength! ***Holding Power!***
Balance!

All-steel, welded drum construction for maximum strength with minimum weight. Diametrically opposed back-up bars permit welds of full rim thickness and equal weight distribution. Balanced design gives vibration-free operation and longer bearing life. Interchangeable Taper-Lock bushings hold like a shrunk-on fit . . . mounting and demounting is simple. Diameters 6″ to 96″, all widths. Ask your Dodge distributor or write for a bulletin.

Dodge Manufacturing Corporation, 2100 Union St., Mishawaka, Ind.

DODGE *of Mishawaka, Ind.*

▲ For more details circle **NED-699 F** on enclosed inquiry slip ▲



Electronic speed test in Propellair's wind tunnel

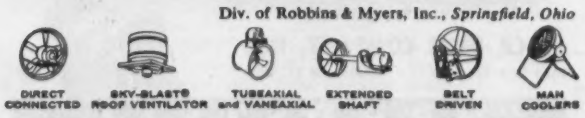
FOR RUGGED DUTY... NEW design axial fans *in sizes up to 60 inches!*

Move corrosive or explosive fumes, extreme heat or high humidity with new PROPELLAIR Type BT belt driven axial fans. They feature heavy 10 and 12-gage drums . . . isolated, air-cooled, protected bearings and belts . . . airfoil propellers cast of hi-strength aluminum-magnesium alloy . . . Robbins & Myers *"All-Weather"* motors for a single nameplate guarantee on the complete unit.

Hi-pressure, big hub propellers are available for those tough applications developing high resistance.

Send today for complete information on this modern, efficient fan. Ask for Bulletin 620—NE

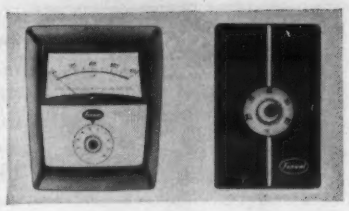
PROPELLAIR®
Div. of Robbins & Myers, Inc., *Springfield, Ohio*



MOVING AIR IS OUR BUSINESS®

▲ For more details circle **NED-700 F** on enclosed inquiry slip ▲

TEMPERATURE CONTROLS
use transistorized printed circuits



Various types of transistorized temperature detectors, controllers, and indicators which use interchangeable printed circuit boards are adaptable to a wide range of applications. Line includes single-point on-off temperature indicator-controller with optional proportioning circuit, single-point controller with either on-off or proportional action and optional indicator circuit, and thermometers which use thermistor sensing probes for temperature indication. Ranges covered are from −50 to 600° F. Controllers will handle loads to 10 amp, 110 v ac. Modern style instruments are made in selection of colors. ● **Fenwal Inc.**, Pleasant Street, Ashland, Mass.

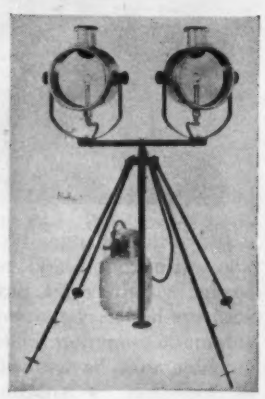
▲ For more details circle **NED-701 F** on enclosed inquiry slip ▲

TUBE BRUSHING MACHINE
cleans and deburrs tubing, fittings

Inside and outside diameters of copper tubing and fittings in ½ through 4-in. sizes are cleaned and deburred by this No. 10 copper brushing machine. Six oscillating spindles, three on each side, will clean six different size fittings without changing brushes. Nine oscillating steel brushes are furnished. Abrasive discs backing up each brush simultaneously clean up the ends of the fittings to assure proper solder flux flow. Accessory reaming tool for up to 2-in. tubing is interchangeable on any spindle. Machine is furnished for bench mounting, or with legs. ● **Oster Mfg. Co.**, 1340 E. 289th St., Wickliffe, Ohio.

▲ For more details circle **NED-702 F** on enclosed inquiry slip ▲

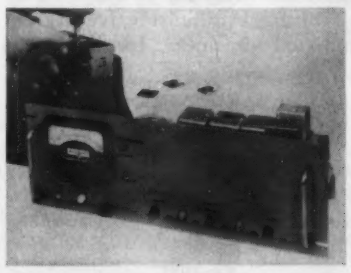
LP-GAS FLOODLIGHT
weatherproof 15,000-cp unit



Intensity of the light produced by the Model BL-130 Leelight LP-gas floodlight is easily adjusted to suit application. Constructed of anodized aluminum, it delivers 15,000 mean reflected candlepower and will ignite instantly down to −40° F. The self-contained, weatherproof light is portable, and is available with a variety of mountings. It is shown on a 4 to 8-ft telescoping stand. It operates at less than 4 cents per hour. ● **Wm. W. Lee & Son**, 20 E. Jackson Blvd., Chicago 4, Ill.

▲ For more details circle **NED-703 F** on enclosed inquiry slip ▲

METER RELAY
2-mu w signals control up to 600 w



Low level electrical signals, or the output of differential transformers, strain gages, bridges, temperature-sensitive elements, or photocells enable the Regohm meter relay to sort, grade or classify, alarm, indicate, or control many types of processes continuously. Signals as low as 2 mu w will activate the unit to control up to 600 w of output power. Unit can be equipped with up to nine classification indicators, and is able to perceive a 0.00005-in. thickness change. The relay also feeds back output power to correct deviation from nominal tolerance before the "reject" class is reached. Output is available in two ways for continuous process control, for sequential operation of up to nine power relays, and for stepless control of hundreds of watts. ● **Electric Regulator Corp.**, Pearl St., Norwalk, Conn.

▲ For more details circle **NED-704 F** on enclosed inquiry slip ▲

NEW idea book on Monorail handling systems for...

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SEND TODAY!
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AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

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TOUGH BUYERS DEMAND
REZNOR unit heaters

In 70 years, Reznor factory replacement has been less than 1/10 of 1%! Reznor flame-tests each unit before shipment so it comes to you in top running order, and stays that way. Tough buyers know that Reznor heaters cost less over the years.

Write for the catalogue that details all the features: aluminized steel heat exchanger, 2-speed fan, low-voltage controls.

REZNOR Manufacturing Co., Dept. 41-D, Mercer, Pa.

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Ask Sommer first for whatever you need in precision wire parts or products. We have complete equipment to handle your job from start to finish.

We offer finest facilities for automatic fabrication, flattening and punching, threading, spot and butt welding.

Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome and mill finishes —in both barrel and fully automatic equipment.

We make our own tools, saving time and money for you.

Tell us your needs. Send sample, blueprint or drawing. We will submit recommendations and quotations promptly.

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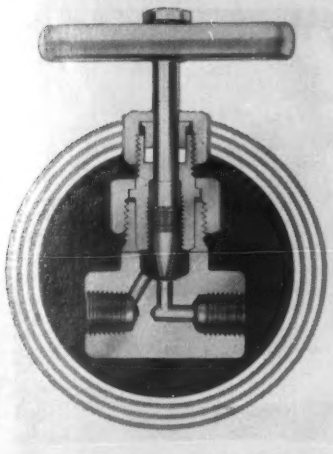

SOLVE YOUR METER MANIFOLD AND CORROSIVE FIELD SERVICE PROBLEMS

AMERICAN® NEEDLE VALVES

Teflon-packed forged steel American Needle Valves eliminate gland leaks, deliver dependable service under the toughest conditions. Stainless or carbon steel precision machined valve bodies are ideally suited for welding. Stainless steel centerless-ground valve stem design makes it simple to repack valves under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. Upon request, assembled valves are hydrostatically tested to 10,000 psi (twice rated working pressure) and are individually inspected. Valves also furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns—screwed or union bonnets.

Your American Meter representative will give you full details.

AMERICAN® METER COMPANY (INCORPORATED ESTABLISHED 1836)

General Offices: Philadelphia 16, Pa.

Sales Offices in Principal Cities

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Heavy Duty ALLEN PUNCH PRESSES

POWERFUL
DEPENDABLE
ECONOMICAL
FULLY GUARANTEED
MODERATE IN PRICE

Hundreds of different Model Combinations 1 to 12 ton Capacities

See your supply dealer or write for catalog giving complete information, specifications and prices.

Thousands in Use the World Over

ALVA ALLEN INDUSTRIES, Dept. NED
Clinton, Missouri Tel. TUrner 5-3331

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"FLEXA-SWITCH"

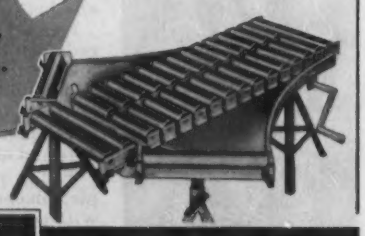
Furnished in wheel or roller types. Axles are always on radial lines at any setting for positive travel. Automatic guard rails available.

Manual control is standard. Air or electric automatic control is available either remote or station operated. (Illustrated with 45° curve for 90° turn.)

2 WAY FLOW
Through and 45° right OR left.

• OR •

3 WAY FLOW
Through and 45° right AND left.



Various standard widths. Write for details.

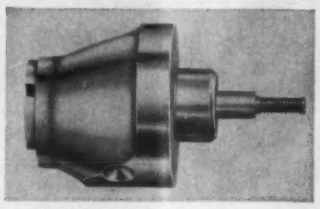
METZGAR CONVEYOR CO.

416 Douglas St., N. W. MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES

GRAND RAPIDS 4, MICH.

▲ For more details circle NED-710 F on enclosed inquiry slip ▲

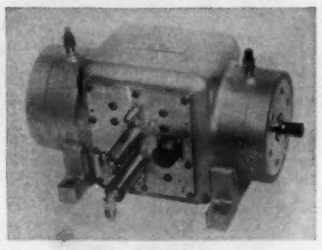
THREE-DIMENSIONAL CAMS
machined in one piece from bar stock



Pictured here is an example of a three-dimensional cam, machined in one piece from bar stock in an operation that involved 1300 positions and required 12,000 calculations. Such cams are made from a distortion-free, noncorrosive metal and are surface treated for low coefficient of friction. Tolerance is within ±0.0005 in. They are turned out on a specially built machine which cuts the radial and axial dimensions simultaneously. Blanks are cut from 1¾ in. stainless bar stock which allows for a 1.5103-in. maximum diameter and a 0.164-in. minimum diameter. Wide range of other sizes can be made to order. • **Eonic, Inc.**, 464 E. Hollywood, Detroit 3, Mich.

▲ For more details circle NED-711 F on enclosed inquiry slip ▲

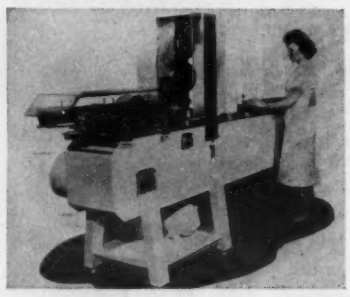
TORQUE METER
transmits signals up to 50,000 rpm



Ranges from 0 to 100 lb-in. full scale to 0 to 1000 lb-in. full scale are available in the Model F2C2A high speed torque meter. The ball bearing equipped unit has a noiseless, long life slip ring assembly and is capable of accurately transmitting torque signals through 50,000 rpm. Larger version transmits torque through 2500 and 10,000 lb-in. full scale. All are furnished with male spline shaft ends and coupling halves on the shaft assembly. • **B & F Instruments, Inc.**, 3644 N. Lawrence St., Philadelphia 40, Pa.

▲ For more details circle NED-712 F on enclosed inquiry slip ▲

LID CLOSURE MACHINE
for rigid foil containers

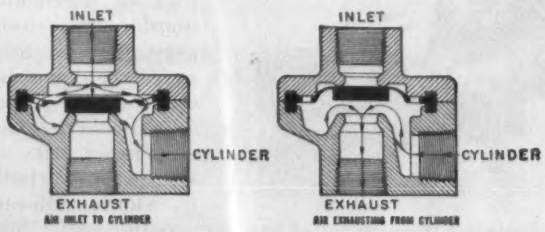


From 30 to 110 rigid aluminum foil containers are folded and crimped per minute by the Model 3-B continuous feed lid closure machine. It is quickly converted for use with any size and style of container, including regular edge vertical flange, interrupted vertical curl, curled edge with round and rectangular foil hood lid, and beaded with hood lid. Basic machine is manually loaded with pre-lidded containers, but it may be fitted for fully automatic operation. Designed for food packaging, the machine may be washed with water without harm to its operation. • **Anaconda Aluminum Co.**, Container Div., Box 1654, Louisville 1, Ky.

▲ For more details circle NED-713 F on enclosed inquiry slip ▲

QUICK EXHAUST VALVE
vents varied air-operated equipment

Smooth, oversize, unrestricted internal passages incorporated in the Pneu-Trol quick exhaust valve prevent clogging from contaminated air lines. Its diaphragm



provides instantaneous and complete venting of exhaust air from cylinders, presses, and other air operated equipment. The one-piece diaphragm and seal is molded of a tough, oil and abrasion resistant synthetic compound. Exhaust pressure is compounded against the entire diaphragm area for flat, flutter-free opening and closing action. Compact, aluminum bodied valve operates in any position. It is made for ⅜-in. pipe with 125 and 5-psi maximum and minimum operating pressures. • **Auto-Ponents, Inc.**, 3001 Grant St., Bellwood, Ill.

▲ For more details circle NED-714 F on enclosed inquiry slip ▲

PLANNED maintenance pays off!

Less down-time more GO-TIME with

Hobbs INDUSTRIAL HOUR METERS

• Plan maintenance on operating hours — for superior performance and maximum utilization.

• Set up a factual basis for rental and leased equipment . . . for buying and selling.

• Time ALL your equipment: d-c hour meter for engine or battery-powered units . . . a-c hour meter for line-powered equipment.

• Be sure with a Hobbs true electric timing instrument — no revolution counter can do the job!

▶ Distributors in Principal Cities

WRITE FOR CATALOG 600

Symbol of SW Excellence

John W. Hobbs Corporation
A DIVISION OF STEWART-WARNER CORPORATION
2055 YALE BLVD., SPRINGFIELD, ILLINOIS

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RELY ON WEATHERHEAD FOR "RIGHT NOW"

HOSE ASSEMBLY SERVICE

The Weatherhead Company is your leading source for permanently attached hose assemblies. Swaged hose assemblies can be made to your order in sizes up to 2" . . . any type . . . any pressure . . . any length . . . any quantity for any and every industrial application. Saves time, labor, and material. Weatherhead extra length hose ends assure a firm, secure leak-proof grip designed to withstand pressure beyond the pressure limits of the hose.

Write for our money-saving quotation on all your hose assembly needs today.

YOUR SINGLE-SOURCE SUPPLIER OF ALL INDUSTRIAL HOSE & FITTINGS NEEDS

THE WEATHERHEAD COMPANY
FORT WAYNE DIVISION

Dept. Ned-6,
128 W. Washington Blvd., Fort Wayne, Indiana

▲ For more details circle NED-716 F on enclosed inquiry slip ▲

Drill Hardened Steels without Annealing—

USE The New IMPROVED "HARDSTEEL" DRILL

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

▲ For more details circle NED-717 F on enclosed inquiry slip ▲

MICRO SWITCH Precision Switches

"CX" Precision Switch

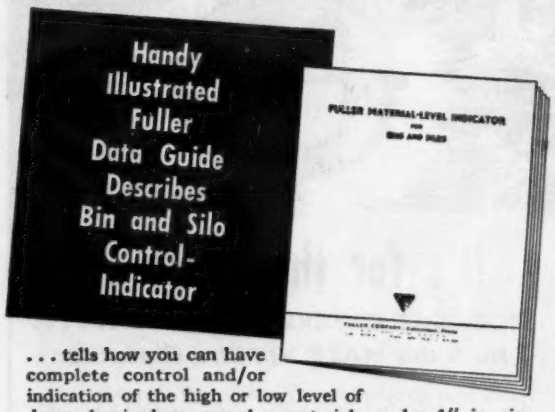
A rugged switch, sealed against driving rain, dry blowing dust, heat and humidity. All exposed parts treated to resist corrosion. This switch is explosion-proof, Underwriters' listed as safe for hazardous vapor-air and dust-air atmospheres. The "CX" contains two single-pole, double-throw switching units, each operated by opposite movements of the roller arm. Actuator arm has non-sparking nylon roller, adjusts through 360° and from 1" to 3" in length. Write for Data Sheet 156 or contact the MICRO SWITCH branch office or distributor listed in the Yellow Pages.

MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell
In Canada: Honeywell Controls Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

▲ For more details circle NED-718 F on enclosed inquiry slip ▲

FREE BULLETIN ON MATERIAL-LEVEL INDICATING



. . . tells how you can have complete control and/or indication of the high or low level of dry pulverized or granular materials under 1" in size passing into or out of bins, silos and bunkers.

The dust-tight Fuller-Material-Level Indicator offers exact audible-visual indication and control despite any momentary surge or settling of material.

For the complete story, and your free copy of this useful and informative guide, write today for Bulletin I-5 B 1357 I-7

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

Fuller

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World.

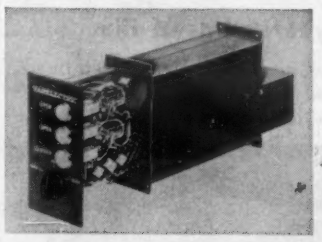
▲ For more details circle NED-719 F on enclosed inquiry slip ▲

POWER TOOL LOCK
prevents unauthorized use of tool

Unauthorized use of power saws, lathes, power tools, and electric appliances is prevented by this Power-Blok, a locking device that slips onto the prongs of the power cord. The automotive-type unit locks either two or three-pronged cords, positively preventing their use. It also prevents tampering with delicate electrically powered instruments of all kinds. Lock retails for $1.49. • Hurd Lock & Mfg. Co., Almont, Mich.

▲ For more details circle NED-721 F on enclosed inquiry slip ▲

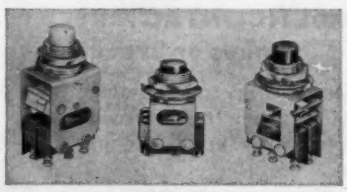
PUMP & VALVE CONTROL
continually supervises, indicates



Varelectric two-wire supervisory control system provides direct and instantaneous control of pump motors, valve operators, and similar equipment. It continually supervises and indicates the status of the controlled device, using only one wire between each control and field unit, plus one conductor common to many units. Operating principle involves the inherent polarization characteristics of a direct current power source for remote control and the ability of a Wheatstone bridge circuit to recognize conditions and direction of unbalance. No power is required at the field end. • Vapor Recovery Systems Co., 2820 N. Alameda St., Compton, Calif.

▲ For more details circle NED-722 F on enclosed inquiry slip ▲

PUSHBUTTON SWITCHES
offered in three styles



Panel seal and regular 15/32-in. bushing are available in Haydon 5300 miniature pushbutton switches with direct actuating leaf spring mechanism, one of three styles available. They incorporate two, three, or four single-pole double-throw switches. Assemblies with external positive-acting pushbutton actuators provide good simultaneity with from two to six-pole double-throw circuitry. Alternate action switches have a double-pole double-throw circuitry in which each actuation reverses the contact positions. Black, red, and white buttons are available in two lengths. Electrical rating is 5 amp resistive, 3 amp inductive, with 10 amp resistive and 3 amp inductive a special order. • Haydon Switch, Inc., 536 S. Leonard St., Waterbury 20, Conn.

▲ For more details circle NED-723 F on enclosed inquiry slip ▲

NEW KIDDE CARBON DIOXIDE PORTABLES AWARDED HIGHEST U. L. RATINGS!

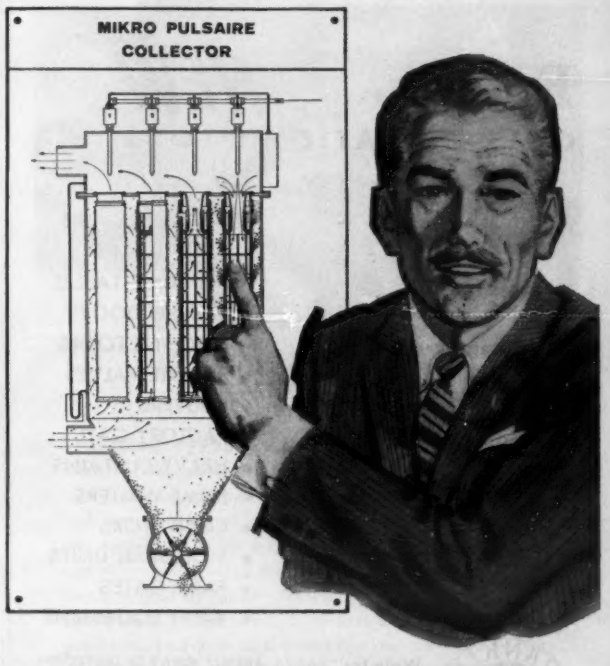
Four new Kidde carbon dioxide extinguishers have been awarded *highest* Underwriters' Laboratories ratings. The portables are available in 15 and 20 lb. capacities with either squeeze valve or trigger operation.

They feature new hose and discharge horn assemblies which are responsible for their extra fire fighting ability. The new assembly is supplied also with Kidde's 10 pound carbon dioxide portable which has a U. L. rating not exceeded by any other extinguisher of its capacity. This hose-horn combination is also being offered as a replacement unit for existing 10, 15 and 20 lb. units, and when attached will upgrade their effectiveness equal to the new ratings. For complete information on these top-rated units, write Kidde today.

Kidde

Walter Kidde & Company, Inc., 624 Main St., Belleville, N. J.
Industrial and Marine Division

▲ For more details circle NED-724 F on enclosed inquiry slip ▲



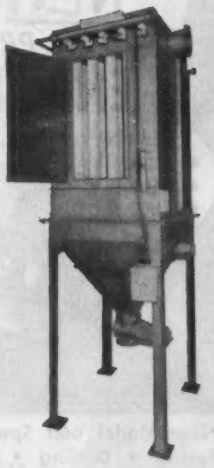
NO INTERNAL MOVING PARTS...

not even valves or dampers adjacent to collector!

That's why the MIKRO-PULSAIRE is the true economy dust collector . . . absolutely no internal mechanical moving parts! In radically simplified operation, filter elements are cleaned in a continuous cycle by introduction of momentary jets of high-pressure air through specially-contoured venturis mounted above each filter cylinder, individually controlled by a timed solenoid.

World-wide installations are proving the economy of the MIKRO-PULSAIRE through reports of drastically reduced maintenance down time . . . with filtering efficiencies of 99.9% plus, on a wide variety of dusts.

Write for Bulletin 52A, or call in the Mikro representative. Ask about the new MIKRO-PULSAIRE modular construction units with capacities from 20 cfm to any known requirement.

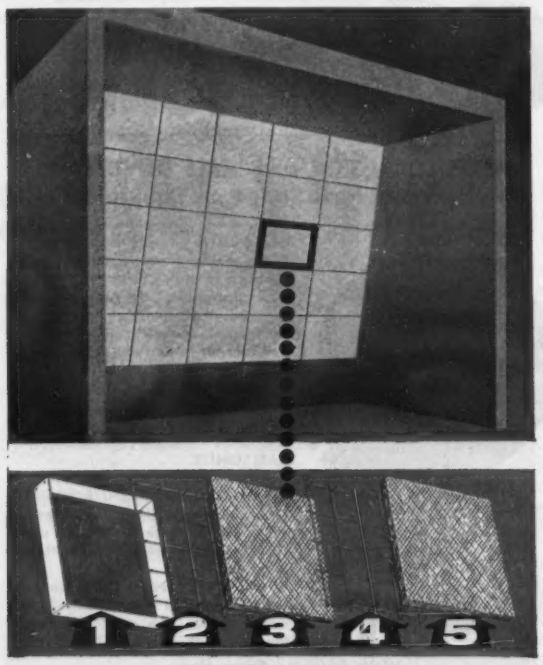


MIKRO-PULSAIRE
Model 20-6

MIKRO-Products
PULVERIZING MACHINERY
A Division of Metals Disintegrating Company
Division of American-Marietta Company
28 Chatham Rd. • Summit, N. J.

SPAN THE GLOBE

▲ For more details circle NED-725 F on enclosed inquiry slip ▲



A Paint Arrestor module consists of a Holding Frame (1), two Snap-in Grids (2 and 4), two Paint Arrestors (3 and 5). Loaded Paint Arrestors are simply replaced as necessary. And, they're also ideal for air-borne ink, mist, dye, frit, etc.

CONTROL PAINT OVERSPRAY the inexpensive, effective way!

The advantages of R P Paint Arrestors, the inexpensive, disposable air filters are many. Overspray solids are trapped before they reach the exhaust stack... to reduce fire hazards, damage to adjacent property... disagreeable and time-consuming maintenance work. Installation? —easy and fast. Maintenance? —remove loaded Paint Arrestor and replace a new one. Adaptability? —ideal for any type, any size booth, new or existing.

RP PAINT ARRESTORS

UL Listed

RP Products of Research

RESEARCH PRODUCTS Corporation
Dept. 32, MADISON 1, WISCONSIN

▲ For more details circle NED-720 F on enclosed inquiry slip ▲

REMOVE Paint, Dirt, Scale
CLEAN Brick, Stone, Masonry
PROTECT Metal Surfaces
and Save Money

AIRPLACO JET-BLASTER
Wet or Dry SANDBLASTERS

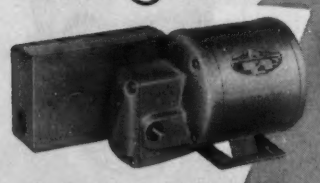
● Efficient, Easy-to-Use ● Air Jet Pick-Up
● Adjustable Flow Control

EXCLUSIVE! "Sand-Saver" remote cut-off valve. No costly mechanical controls. Lets operator shut off air and material at the nozzle. Saves time, labor and materials.

FREE Write for catalog showing all models plus complete line of sandblast accessories.

AIRPLACO AIR PLACEMENT EQUIPMENT CO.
1011A WEST 25TH ST. • KANSAS CITY 8, MO.
WORLD'S LEADING MANUFACTURER OF "ADVANCED DESIGN" PNEUMATIC PLACING EQUIPMENT
▲ For more details circle NED-726 F on enclosed inquiry slip ▲

Franklin NEW
GEAR-O-MATIC MOTORS
for . . .



• GARAGE DOORS
• VENTILATORS
• INDEXING TABLES
• SLIDING DOORS
• MACHINE TOOLS
• REMOTE VALVES
• LOUVERS
• FACTORY GATES
• HEAVY CURTAINS
• DUMB WAITERS
• CONVEYORS
• MONORAIL UNITS
• FARM GATES
• X-RAY EQUIPMENT

An instant-reversing, geared motor controlled by built-in adjustable limit switches . . . and featuring an automatic safety device which instantly reverses the motor rotation when a predetermined force resists the motion of the driven product.

√ INSTANT, HI-TORQUE REVERSING
√ MANUAL OR FULLY AUTOMATIC
√ WORM GEAR REDUCTION

Write for "FACTS ABOUT GEAR-O-MATIC®"

FRANKLIN ELECTRIC
Franklin Electric Co., Inc.
BLUFFTON, INDIANA
▲ For more details circle NED-727 F on enclosed inquiry slip ▲

NEW PINES
HIGH PRODUCTION
END FINISHER
for
• TUBE
• ROD
• PIPE

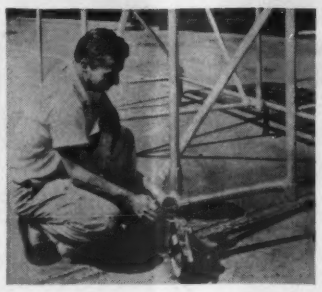
New Model 660 Speeds Chamfering • Deburring • Facing • Drilling • Reaming • Tube-End Forming

● Rugged new design for high production, easy operation, faster feeds on simultaneous inside-outside deburring, chamfering, facing.
● New rigid, unitized spindle frame and heavier base retains close concentricity between the tool holder and chuck jaws.
● Simplified setup, operation, maintenance . . . one-minute speed changes with new hinged safety guard and pivoted motor mount.
● Production to 800 ends an hour . . . capacity to 2" O.D. . . . air operation, larger units or special machines are also available.

Write for catalog giving cost cutting features, production data, complete specifications.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
641 WALNUT • AURORA, ILLINOIS
▲ For more details circle NED-728 F on enclosed inquiry slip ▲

SLIP-ON FITTING
facilitates scaffold construction



Portable maintenance scaffolds can be quickly constructed from structural pipe using Nu-Rail fittings. Pipe is cut to length, slipped into the fittings and fastened securely with set screws. Maintenance man uses only a hex wrench for assembly or disassembly. Fittings require two recessed set screws for each pipe. Joints are smooth with no protruding heads or threads. ● Hollaender Mfg. Co., 3841 Spring Grove Ave., Cincinnati 23, Ohio.

▲ For more details circle NED-729 F on enclosed inquiry slip ▲

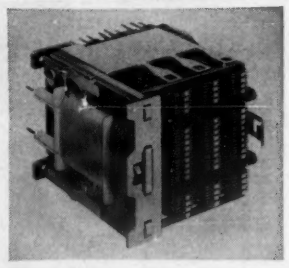
TRACING PENCIL
for use on polyester based film

Resins, super-fine graphites, and plasticizers which block out light are compounded into the lead of the FTC (film tracing reproduction) pencil to make drawings of

black ink clarity. It is suited for use on polyester-based film, including Mylar and Cronar. Pencil is produced in six degrees of hardness. The 1-doz size transparent plastic box becomes a desk tray. ● Joseph Dixon Crucible Co., 167 Wayne St., Jersey City 3, N. J.

▲ For more details circle NED-730 F on enclosed inquiry slip ▲

MULTICONTACT RELAY
makes or breaks up to 51 circuits



Series WQA quick-acting wire-spring relay will transfer up to 51 circuits for over 100 million operations without readjustment. An actuating card, activated by armature movement, operates all moving wire-spring contacts simultaneously and independently. Unit is available in one, two, or three levels of contact assemblies, each with up to 17 Form C combinations. Operating voltages range from 6 to 220 v dc, although rectified ac is also accommodated. The 51-contact pile-up requires less than 4 w operating power. The twin, independent palladium-silver contacts will carry 3-amp, 150-w noninductive load. Three-level unit measures 4.06 x 3.14 x 3.78 in. and sells for about $50. ● Automatic Electric Laboratories, Northlake, Ill.

▲ For more details circle NED-731 F on enclosed inquiry slip ▲

MOTORIZED FILE
holds letter and legal size records

Smallest Motorshelf file replaces over 17 average correspondence file drawers. Actuating automatic self-leveling toggle switch or a set of pushbuttons automatically selects the shortest direction of rotation of any file shelf to the working point. Unit holds legal, letter, and special size files, all fully protected from dust and dirt. Unattached worktable of convenient height may be mounted on casters and modified for special needs. Quiet operating unit is made in 12, 14, and 16-cradle models with 9, 10.6, and 12.4 linear filing inches per linear inch of aisle space, respectively. The operator can stand or sit. ● Wheeldex & Simpla Products, Inc., 1000 N. Division St., Peekskill, N. Y.

▲ For more details circle NED-732 F on enclosed inquiry slip ▲

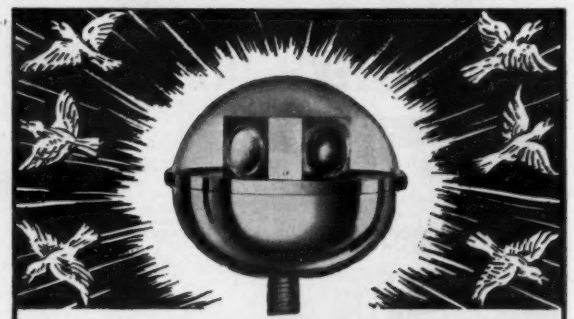
NEW

Two Heavy-duty 5" & 6"
PORTABLE GRINDERS
UNCONDITIONAL SERVICE GUARANTEE
through June 30, 1961*

• 15% faster and "human engineered" to provide precise balance, better control
• Up to 35% lighter for more effortless heavy-duty operation
• Precision ball-bearing spindle shaft assures accurate grinding, prevents wheel wobble
• Steel wheel guards—resinoid-bonded grinding wheels
• "Soft-square" spindle handle gives maximum control and stability. Prevents tipping and rolling

*If any of Stanley's 16 new industrial tools, under normal use, becomes unserviceable during the above period, Stanley will repair the tool free of charge.
*Standard guarantee applies after June 30, 1961.

STANLEY Stanley Electric Tools
DIVISION OF
THE STANLEY WORKS
5806 MYRTLE ST. • NEW BRITAIN, CONN.
▲ For more details circle NED-733 F on enclosed inquiry slip ▲



It's for the BIRDS!
STOP COSTLY WAREHOUSE DAMAGE . . .
Flash the MARK VIII Bird Eliminator

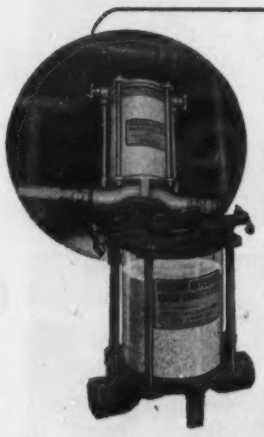
Now, bird damage so expensive to packaged goods, sheet steel, machinery, grain and other merchandise stocked inside warehouses can be eliminated! This light covers 360° like an airplane beacon with dual colored beams at the rate of 200 a minute. The roving rays continuously disturb the birds, interrupting their feeding and nesting to the extent that they do not remain. Lifetime vitreous enameled housing can't corrode. Operates on 115-120 V, is easily installed and has a 2000-hour bulb.

Get the Facts—Write TODAY!

TRIPPE MANUFACTURING CO.
133 N. Jefferson, Dept. F-3, Chicago 6, Ill.
▲ For more details circle NED-734 F on enclosed inquiry slip ▲

It's so easy!
Get Sparkling Clear, Conditioned Water with KARLSONITE*

HALTS CORROSION and SCALE DEPOSITION
Prevents Rust Stains on Equipment



KARLSONITE phosphate water conditioner holds minerals and metallic elements in water in perfect suspension, preventing clogging deposits that reduce efficiency of boilers, heat exchangers, cooling towers, etc.

Water for human consumption, too, is vastly improved. Crystal-clear, tasteless and non-toxic, it produces no deposits or rust stains in ice cubers, coffee urns and other equipment in most cases . . . when conditioned with KARLSONITE.

An easily installed KARLSON dispenser feeds KARLSONITE into the system automatically. With no moving parts, maintenance is nil. Only occasional replacement of the conditioner is required.

With KARLSONITE, it's so easy to get the *most* and the *best* out of your water system. The cost? Amazingly low. Why not investigate?

Write for full information

STILES-KARLSONITE CORPORATION
1564 Grand Avenue • Waukegan, Illinois
*Reg. U.S. Pat. Off.
WATER CONDITIONING COMPOUNDS AND EQUIPMENT
▲ For more details circle NED-735 F on enclosed inquiry slip ▲

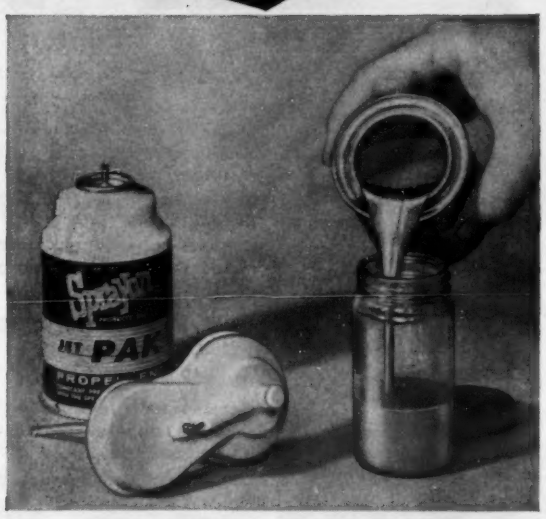
TRANSFER FUEL FASTER!

- Pumps on forward and back strokes
- Delivers up to 20 gpm with up to 20-foot lift
- Vacuum breaker prevents siphonage
- No foot valve
- Models for farms, garages, factories, construction jobs
- Available with automatic nozzle

JOHN WOOD COMPANY
BENNETT PUMP DIVISION • MUSKEGON, MICHIGAN
IN CANADA: JOHN WOOD COMPANY LIMITED
Toronto • Montreal • Winnipeg • Vancouver

▲ For more details circle NED-736 F on enclosed inquiry slip ▲

MAKE YOUR OWN SPRAY CAN IN ONE MINUTE!



FILL THE JAR AND PRESS THE BUTTON! SPRAY ANYTHING WITH

SPRAYON JET-PAK SPRAY GUN

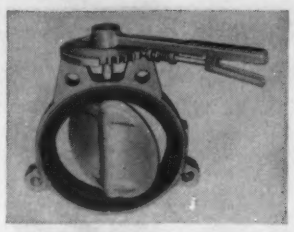
NO WIRES • NO HOSES
USE ANYWHERE
CONSTANT-PRESSURE REFILL SPRAYS UP TO ONE QUART
RUGGED, PRECISION SPRAYER
EASY TO LOAD, TO RELOAD, TO USE
NO SKILL NEEDED

Here is quick and easy spray application of materials not available in regular aerosol containers. The Sprayon Jet-Pak Spray Gun gives all the portable convenience of a regular aerosol plus all the quick-change versatility of a regular spray gun. Jet-Pak does a hundred different maintenance and production jobs. If you make a painted product, use it in the factory or in the field to touch up finishes marred in production, in shipping, in stock-handling or installation. You load it yourself with any liquid—lacquers, enamels, lubricants, solvents, adhesives, etc. Fill the jar as often as needed—each refill power unit sprays up to one quart of material at a steady, constant pressure. Extra jars with lids available to keep a number of materials on hand ready for instant spraying.

Jet-Pak is part of Sprayon's complete line of "Aerosols for Industry"...47 maintenance and production aids in self-spraying containers, made by the oldest and leading custom-loader of aerosol specialties and sold through industrial distributors. Industrial Supply Division, Sprayon Products, Inc., 2063 E. 65th Street, Cleveland 3, Ohio.

▲ For more details circle NED-737 F on enclosed inquiry slip ▲

BUTTERFLY VALVE
2 to 36-in. sizes, 50 and 150 psi



Drop-tight shutoff and resistance to corrosion are provided by this resilient seated butterfly valve, available in 2 to 36-in. sizes and 50 and 150-psi pressure ratings. Disc seats against resilient seat of molded, abrasion-resistant rubber or synthetic elastomer which snapfits easily into the body. This Keelok liner is replaceable on the job. Assembly is designed with ample safety factor to withstand water hammer, hydraulic shock, and vibration several times the rated load. Valve mechanism, manual or automatic, is secured to shaft by a shear pin designed to fail should a large obstruction render the valve inoperable. • **W. S. Rockwell Co.**, 200 Eliot St., Fairfield, Conn.

▲ For more details circle NED-738 F on enclosed inquiry slip ▲

ELEVATING TRAILER
has compact hydraulic system

Unitized hydraulic system of the ½-ton Trailevator elevating trailer consists of a single hydraulic pump and cylinder unit. Body lowers to ground for easy loading. The hydraulic system is disengaged and the load is locked to an independent spring suspension system when the trailer body is raised to riding position. Standard features are welded tubular steel frame, steel panel box body, heavy duty tailgate-ramp, dual tail and direction lights, reflectors, and license light. Split hitch arm for lowering trailer without detaching it from the towing vehicle is an option. • **Magline Inc.**, Trailevator Div., 1900 Mercer St., Pinconning, Mich.

▲ For more details circle NED-739 F on enclosed inquiry slip ▲

STEPLESS INPUT CONTROLLER
for heaters, baths, and furnaces

Any percentage of operating time from 5 to 100 per cent can be set on the Type 8000 Thermolyne stepless power input controller. The electrothermally - actuated unit, smaller than a 4-in. cube, accurately switches power on and off in a preselected rhythm. A neon pilot light indicates "on" time. Applications include control of flask heaters, mantles, heating tapes, water baths, and small furnaces. Unit automatically compensates for voltage and ambient temperature variations. The stainless steel case contains a fuse to protect connected equipment and a female receptacle for a two or three-prong plug. Controller will operate in any position and is rated 1500 w on 115 v ac. • **Thermo Electric Mfg. Co.**, 484 Huff St., Dubuque, Iowa.

▲ For more details circle NED-740 F on enclosed inquiry slip ▲

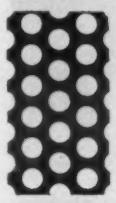
RADIATION MONITOR-CONTROL
activated by infrared radiation

Low temperature ranges of 500 to 1200° F and higher are available in the Pyrotel non-contacting radiation monitor and control. Instrument is suited for control of extrusion, plastic forming, glass, sealing, heat treating, soldering, and brazing operations. It will monitor the temperature of platens, extrusion billets or dies, and rollers. It can "look through" quartz or glass windows to monitor objects being heated in controlled atmospheres or vacuums, and is suited for induction or resistance heating applications. Activated by infrared radiation emitted by warm objects, it can be mounted from 12 to many feet away. Meter gives visual indication of relative temperature and can actuate a power relay, give a signal, or control other equipment. • **Mason Instrument Co.**, Box 1681, G.P.O., New York 1, N. Y.

▲ For more details circle NED-741 F on enclosed inquiry slip ▲

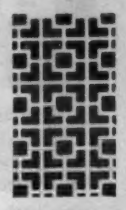
PERFORATED

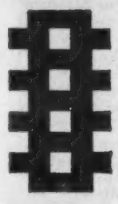
METALS - PLASTICS - FIBRE BOARD

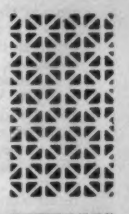


Make your selection from a large stock of standard perforating dies.

Round - Square - Slot
Perforated Grilles
Decorative Metals
Complete Decorative Panels
Screens for heavy road work
Screens for pulp and paper
Or let us design to your specifications.

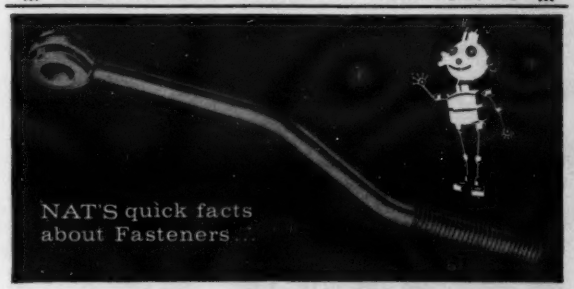






National Perforating Corporation
42 Parker Street
Clinton, Massachusetts

▲ For more details circle NED-742 F on enclosed inquiry slip ▲



Shining example of big things in specials by National

This offset eyebolt, shown about half size, is the happy result of *designing* for *profit,* as National does it . . . to turn out cost-saving Specials, of all sizes. Our customer had been buying this part as a forged eye welded to a machined bolt with a cut thread. We cold formed it in one piece, and rolled the thread . . . making a stronger, more practical, more efficient part at lower cost. For more facts on how we help cut costs in design and production of Specials, write for our 16-page booklet, "Bring Your Special Problems to National."

The National Screw & Mfg. Company
Cleveland 4, Ohio
Los Angeles 22, Calif.

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NEW and NEEDED!

SAFETY PLUNGER CANS
safe cleaning with flammable liquids . . . pressure forces measured fluid to dampen swab . . . FM approved . . . 1, 2 qt., 1 gal.

SAFETY BENCH CANS
for cleaning small parts safely, quickly . . . approved by Factory Mutual . . . 1, 2 qt., 1 gal. capacities.

Style I SAFETY CANS
approved by Underwriters Laboratories and FM . . . safe for handling all flammable liquids . . . 1, 2 qt., 1 gal. with trigger handle; 2½, 5 gal. with free-swing handle.

ORDER FROM YOUR SUPPLIER

Write for free catalog showing Complete Eagle Line . . . Eagle products are also available in Canada

EAGLE MANUFACTURING CO., Wellsburg, W. Va.
Serving the Trade Since 1894

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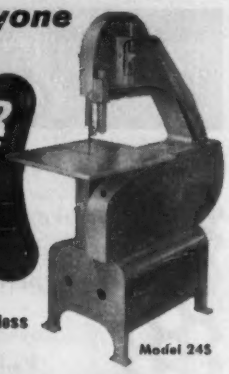

LOCKFORMER BAND SAW

Pays for itself on the first few jobs
Cuts almost everything, including stainless
Compact, Rugged, Fast, for Continuous Heavy-Duty Cutting

Model 24S

One of the most versatile pieces of equipment you can buy! The Lockformer Band Saw cuts forgings, bars, stacked bronze, brass, copper, aluminum and steel sheets, plates, stainless, wood and plastics. Adjustable 100, 600 and 3000 fpm. blade speeds assure high speed, accurate cutting on any job. V-Belt drive with sheaves eliminates power-robbing speed reducers . . . equals or surpasses production of costlier saws with ratings to 1½ hp. Three-wheel Model 24S has full 24" throat; Model 14SM has two-wheel design with 13½" throat for smaller jobs. Both models are simple, rugged, compact, with friction-free, slip-proof final chain drive. Both have Neoprene seals, life-time lubrication. Cemented carbide guides give perfect blade control.

ALL THIS FOR ONLY $695.00 (MODEL 24S) OR $445.00 (MODEL 14SM)*
*Prices subject to change without notice.

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4615 West Roosevelt Rd., Dept. N, Chicago 50, Ill.
In Canada: Brown Boggs Foundry & Machine Co., Ltd., Hamilton, Ontario

LOCKFORMER
TIME SAVING, MONEY MAKING EQUIPMENT

▲ For more details circle NED-745 F on enclosed inquiry slip ▲

AERO-SEAL JET HOSE CLAMPS have a thousand and one shop production and maintenance uses: for fastening hose, piping and tubing, and other clamping applications. Bands and housings are of 302-18-8 stainless steel and are available in all stainless. A few turns of the worm drive and AERO-SEALS are on for keeps. No amount of vibration will shake them loose or snap them open. Yet they are easily removed for re-use. Ask your supplier for genuine AERO-SEALS — quick-attach Jet or Regular. All sizes from 7/16" up.

BREEZE CORPORATIONS, INC.
700 Liberty Avenue, Union, New Jersey Cable Address: Breeze, Union, N. J.

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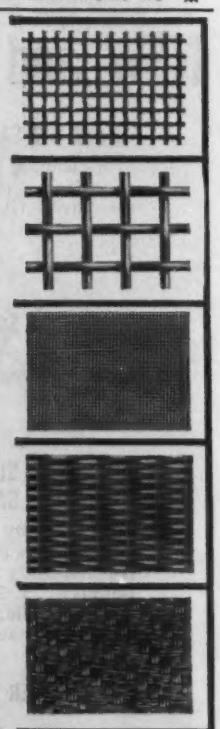
WIRE CLOTH



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ALL WEAVES
ALL MALLEABLE METALS

including

Monel, Nichrome*, Stainless Steels, Aluminum, Brass, Copper, Bronze, Nickel, Molybdenum, Titanium, Tantalum, Tungsten, Silver and other precious metals.

Rolls or cut to size. Send for literature.

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Also

FABRICATED WIRE CLOTH PARTS

Strainers, Filters, Screens, Discs, etc.

NEWARK WIRE CLOTH COMPANY
351 Verona Avenue • Newark 4, New Jersey

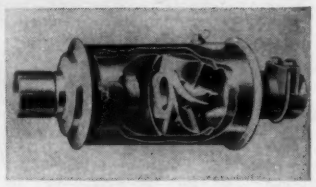
▲ For more details circle NED-747 F on enclosed inquiry slip ▲

SUBMERSIBLE PUMP has floodproof "canned" motor

Made entirely of noncorrosive materials, the Dynasump submersible sump pump combines pump and motor in a single leakproof unit. The lightweight floodproof unit uses a "canned" motor and is installed by connecting the discharge and plugging in the waterproof power cord. A UL-approved, nonclogging pressure switch provides automatic on - off operation. Pump is 9½ x 5½ in., weighs 8 lb, and is suited for sump drainage service from 700 gph at 4-ft head to 200 gph at 10-ft head. Price is $49.95. • **Fostoria Corp.**, Dept. 38, 1200 N. Main St., Fostoria, Ohio.

▲ For more details circle NED-748 F on enclosed inquiry slip ▲

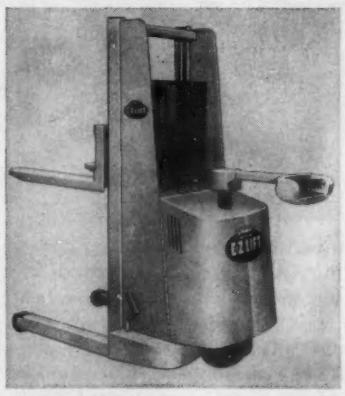
SPARK ARRESTOR for internal combustion engines



Exhaust stream flow through this spark arrestor from mobile and stationary internal combustion engines is given a spinning action by a stationary vane. Rotary motion drives the heavy particles of hot carbon to the outside of the stream and into a spark trap. Standard models, made of aluminized steel with cast iron vane, are offered in four sizes for engines with 150 to 1200 cu in. displacement. Although not intended for use as a muffler, unit's sound attenuation compares favorably with a straight-through type truck muffler. Spark trap is cleaned by opening the cleaning port while the engine idles. • **Air-Maze Corp.**, 25000 Miles Rd., Cleveland 28, Ohio.

▲ For more details circle NED-749 F on enclosed inquiry slip ▲

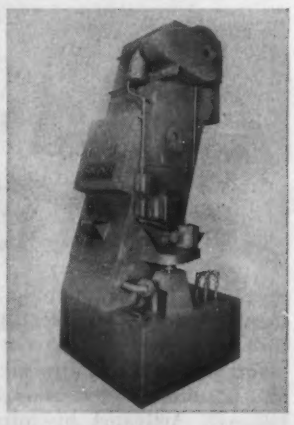
POWERED LIFT TRUCKS lifting heights from 54 to 130 in.



Power-propelled lift trucks added to the E-Z lift line are designed for light and medium duty handling. Units have three speeds forward and reverse, 24-v power system, built-in battery charger, sealed gear drive, floating traction drive wheel, dynamic braking, and four - point suspension. Both telescoping and fixed mast models are offered with lifting heights ranging from 54 to 130 in. Model W-57 shown will lift 1500 lb to 57-in. height and has a 54-in. over-all length. • **Crown Controls Co.**, 40-44 S. Washington St., New Bremen, Ohio.

▲ For more details circle NED-750 F on enclosed inquiry slip ▲

CONVEYORIZED WASHER for small stampings and forgings



With its 11-ft vertical conveyor, the Ransohoff vertical type washing machine requires only 16 sq ft of floor space. It is designed for inter-process cleaning of small stamped and forged parts, washing a 300 to 1500-lb work load each hour. A separate conveyor carries the work to the charging hopper. Parts received a few feet above floor level are given a thorough spray cleaning as they are conveyed to the upper end of the conveyor for discharge. The conveyor can be extended to discharge work on the floor above. Unit is offered with conveyor assembly, pump, motors, and switches. • **Ransohoff, Inc.**, N. Fifth & Ford Boulevard, Hamilton, Ohio.

▲ For more details circle NED-751 F on enclosed inquiry slip ▲

PLATECOIL®

For new savings on more types of tank and process heating and cooling applications than ever before

- SAVES TANK SPACE
- EASY TO INSTALL
- EASY TO CLEAN
- RATED UP TO 250 psi
- FACTORY FABRICATED BANKED, ROLLED, AND SPECIAL STYLES AVAILABLE
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TRANTER MANUFACTURING, Inc.
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When New Molds Stick use IMS **SILICONE FLUID**

For Better Tool and Die Lubrication!

Shorten costly break-in periods! Simply spray on this perfect parting agent from self-dispensing aerosol! Useful too in PATTERN MAKING — releases patterns from master molds with minimum surface defects. Remember . . .

WHERE ANYTHING STICKS
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Get new tools into production sooner. Keep a few cans handy all the time. Order today!

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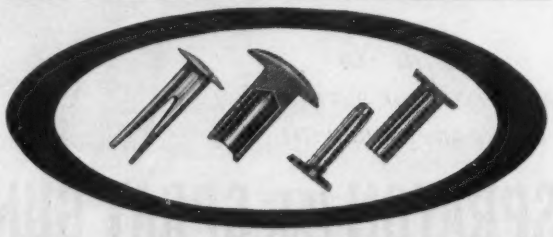
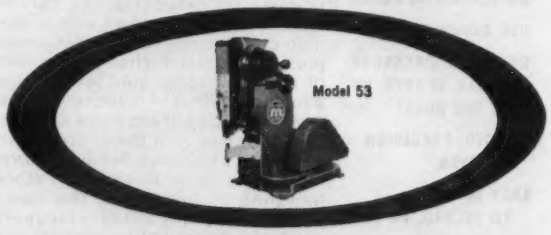


COST-CUTTING PRODUCTION TEAM!

. . . the two-way answer to assembly problems



Here's a combination that cuts production costs and gets rid of assembly problems in a hurry—Milford Tubular Rivets made to high quality standards to assure a better finished product for you . . . Milford automatic rivet-setting machines that can be quickly adapted to your particular fastening needs. Write for more information on how you can put this team to work.

THE MILFORD RIVET & MACHINE CO.
MILFORD, CONN. • HATBORO, PENN. • ELYRIA, OHIO • AURORA, ILL. • NORWALK, CALIF.

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New Gleason
POWERTRAK
Increases Cable, Hose Life on your Equipment-in-Motion!

Write for suggestions on profitable POWERTRAK applications to your Equipment-in-motion

Your equipment will benefit with POWERTRAK—amazing German invention for carrying power cable or hose to and with equipment in motion. Offers many advantages on machine tools, lathes, grinders, planers, presses, cranes and others. Protects power cables, oil, gas, and air hoses against wear from bending, crushing, abrasion, friction, pulling stresses and strains. Avoids machine downtime and cable or hose replacement expense.

POWERTRAK saves space, permits more flexibility in machine design. Handles multiple cable and hose up to 2½" diameter, up to 70 feet of travel, at moving speeds up to 300 feet per minute.

Gleason Reel Corp
Exclusive Licensees for United States, Canada, Mexico
Dept. A, 800 Horicon St., Mayville, Wis.
TAKE-UP REEL HEADQUARTERS FOR ALL INDUSTRY

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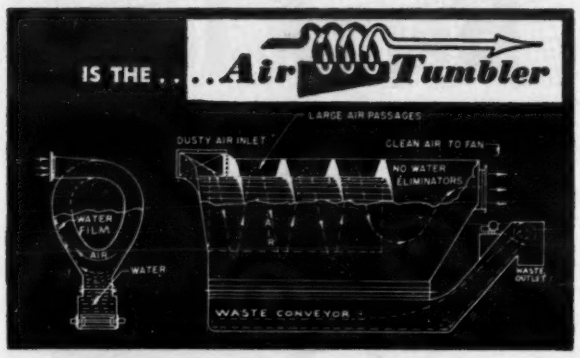
The MASTER of DUST in INDUSTRY

IS THE . . . Air Tumbler



The Wet Collector that becomes Standard Equipment wherever tried because it does a better job at less cost.

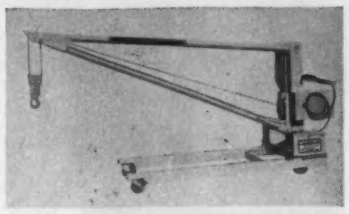
More than one million CFM in ONE plant

Write for Bulletin No. 581. Address:

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

▲ For more details circle NED-756 F on enclosed inquiry slip ▲

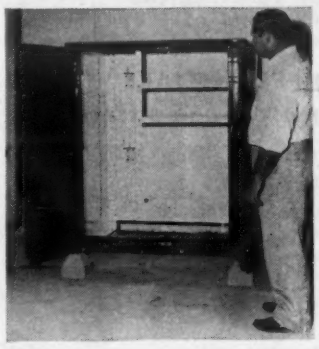
CRANE-DOLLY UNIT
combines powered hoist and boom



Operated by simple pushbutton controls, the POX-LD Auto Crane Dolly combines a battery powered hoist and boom and can be used for precision spotting. The 9-ft boom can be raised or lowered under load, and all casters swivel for maneuverability. Six models for vehicle, dolly, or stationary use are offered for light to 3000-lb loads. • **Auto Crane Co.**, Box 3536, Utica Square Station, Tulsa 23, Okla.

▲ For more details circle NED-758 F on enclosed inquiry slip ▲

FIRE HOSE HOUSE
has red exterior, white interior



Porcelain enameled steel fire hose house for industrial use is fitted with shelving and fixtures for hoses and nozzles. It has a corrosion resistant red exterior and a bright white interior and may be installed adjacent to a fire hydrant in a protected or unprotected area. Porcelain enamel steel requires no maintenance. • **Avondale Marine Ways, Inc.**, Avoncraft Div., Box 1030, New Orleans 8, La.

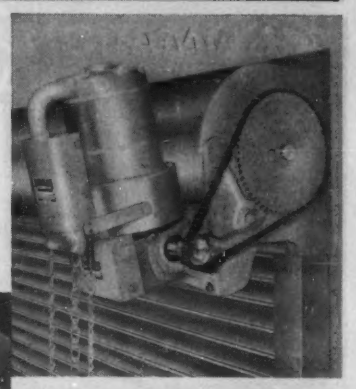
▲ For more details circle NED-759 F on enclosed inquiry slip ▲

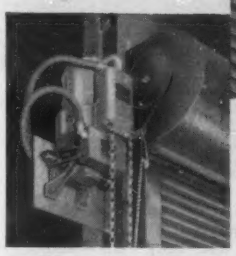
TRANSDUCER
electro-pneumatic type has heater

Type P2R Power Relay, an electro-pneumatic transducer, enables a pneumatic valve actuator to be used with an electronic control system. A 30-w heater in its pneumatic section prevents moisture in the air from freezing the mechanism under conditions of cold weather or low temperature fluids. Relay functions with a null balance Swartwout Autronic primary element transmitter and controller-recorder. It maintains its calibration accuracy over a wide temperature range and provides very fast valve actuation. Input range is 1 to 5 ma and air output is 3 to 15 psi. Other standard outputs are 3 to 27 psi and 6 to 54 psi. Normally adjusted for direct action, the Power Relay can be changed to reverse action. Standard and explosion-proof models are available. • **Crane Co.**, Swartwout Div., Hooksett, N. H.

▲ For more details circle NED-760 F on enclosed inquiry slip ▲

NEW Kinnear Power Operator





Finest motor ever made for Rolling Doors

REMOVABLE design — permits motor removal without disturbing auxiliary hand-chain operator. **3-WAY MOUNTING** permits bracket, wall, or thru-the-wall mounting. **THERMAL PROTECTION** prevents overload — motor cuts out before any damage can occur. **CENTRIFUGAL CLUTCH** transmits motor action to door with no shock or jolt . . . prevents motor stalls and overload damage. **NEW WORM GEARING** assures highest efficiency. **EASIER INSTALLATION,** including easy in-the-field wiring of control to terminal strip. **SEVEN SIZES** offer correct capacities for doors of any size. WRITE TODAY for full details on this all-new motor, exclusive with KINNEAR ROLLING DOORS of steel, aluminum or other metals, for every need.

KINNEAR ROLLING DOORS
Saving Ways in Doorways

The KINNEAR Mfg. Co.
FACTORIES: 3017 Fields Ave., Columbus, O.
1742 Yosemite Ave., San Francisco 24, Calif.
Offices and Agents in All Principal Cities

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There's no limit to what you can do with

DEXION

the first and greatest name in **SLOTTED ANGLES**

- PALLET RACKING
- CONVEYORS
- FRAMEWORK
- WORK BENCHES
- TABLES
- STORAGE RACKS
- PARTITIONS
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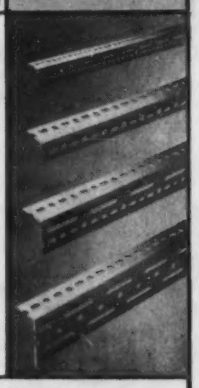
an all-purpose range of 4 SIZES in steel or aluminum

DEXION 112 Midget Size The angle for jobs where great load-bearing capacity is not required.

DEXION 140 Light Duty The equal-flanged DEXION angle for light-duty purposes. For use alone, or combined with DEXION 225 and 300.

DEXION 225 Standard The all-purpose DEXION angle. Combines with DEXION 140 and 300 to solve every equipment problem.

DEXION 300 Heavy Duty The super-rugged angle for use wherever great loads or accidental shock loads must be provided for. Combines with DEXION 225 and 140.



Choose the slotted angle with the world-wide reputation for greatest strength, soundest engineering and most durable finish. Only DEXION offers you a choice of 4 sizes, in both steel and aluminum. Only DEXION offers you such a wide range of useful accessories. Only DEXION gives you the quality that provides truly lower cost.

Write for name of your nearest distributor

DEXION INC. 39-25, 62nd STREET, WOODSIDE 77, N.Y.

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TOOL DESIGN
INSPECTION
in FABRICATION
MEASURING
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TOOLMAKERS' MEASURING MICROSCOPE
Quickly measures transparent or opaque objects of any contour. Linear, accurate to 0.0001"; angular, to 1 minute of arc.

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With this simple hand-held instrument you can measure the depth of any scratch to 0.0001"; with a range of 0" to 0.015".

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Positions small parts for critical measurement with B&L Bench Comparator and Toolmakers' Microscope. Auxiliary base, with 7" travel, increases range beyond that of measuring stage.

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Magnified 3-D views of tiny parts. Dustproof, shockproof, can be mounted right in machine or fixture. Speeds assembly, inspection. Most complete line, widest field of view.

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Exclusive understage illumination—no complex set-ups, no holding fixtures for most work. Magnified silhouettes, show errors instantly. Reads to 0.0001" with optional micrometer stage.

OPTICAL AIDS CATALOG
Time-and-money-saving data on Surface Comparators, Industrial Magnifiers, Macroscopes, Micrometer Discs, Brinell Microscopes, Microscope Bodies, Wide Field Tubes, Shop Microscopes.

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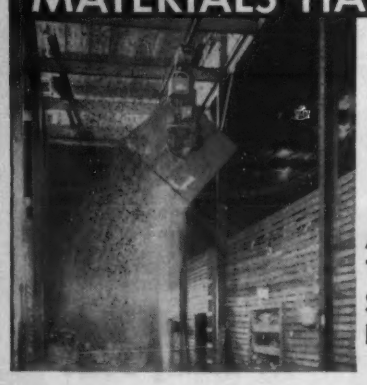
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

▲ For more details circle NED-757 F on enclosed inquiry slip ▲

AUTOMATION *Applied to* MATERIALS HANDLING



Illustrated is a Tramrail carrier with two buckets that delivers materials automatically from first floor to any of 15 bins as pre-selected on third floor, empties and returns.

Automatic Tramrail Systems Pay Big Dividends

Automation as applied to overhead materials handling is not new or magic to Cleveland Tramrail. A wide variety of automatic Tramrail Systems are in use. They deliver materials to one or many stations, empty and return without operator accompanying. Savings are large—usually pay for the system in 12 to 18 months.

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Consider ways of handling your materials automatically

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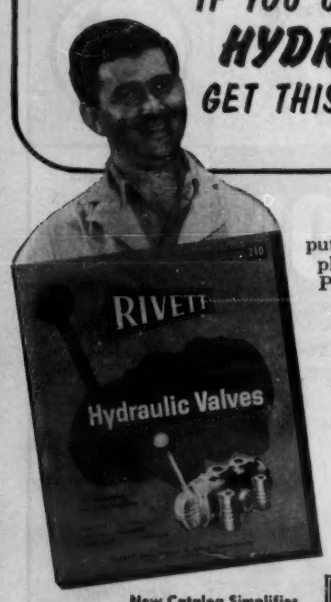
IF YOU USE HYDRAULICS— GET THIS FREE BOOK!



Rivett Catalog No. 210 puts at your fingertips complete information on 3000 PSI, Sub-Plate Mounted, Manually Controlled, Series 6100 Hydraulic Valves. Shows performance ratings, flow charts, dimensions, mountings, and ordering instructions. Check on such features as greater flow capacity! (the 1" size is rated at 28.2 gpm at 15 ft. per sec.) Write for your copy of Catalog No. 210!

New Catalog Simplifies Selection and Ordering!

RIVETT

RIVETT, INCORPORATED
Dept. NED-6 Brighton 35, Boston, Massachusetts
Rivett Furnishes A Complete Power Package

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FREE!

TRACK INSPECTION KIT

Simplifies industrial siding maintenance. Contains easy-to-use check lists for track, tools, accessories; inspection report form showing and describing all siding elements; 16-page Maintenance Guide.

Write L. B. FOSTER CO. for Kit NE-6
Pittsburgh 30, New York 7, Chicago 4, Houston 2, Los Angeles 5, Atlanta 8, Cleveland 35

Faster From Foster
Rail • Piling • Pipe

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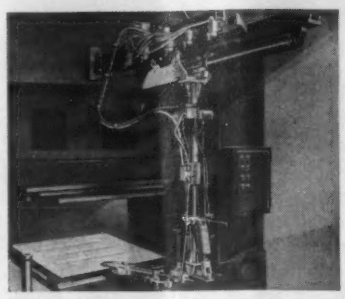
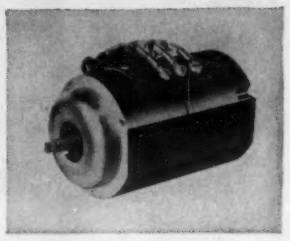
AUTOMATIC PRESS HAND safely extracts finished stampings



Self-contained grab-type extractor which mounts on back of press requires only one electrical interconnection with press to initiate the grab and extraction cycle. Press hand is equipped with manual inching controls mounted on side of press to facilitate setup. A range of adjustments, including a vertical lift cylinder which can be electrically switched in or out of the circuit, adds to unit's versatility. Various grab jaws are offered to suit any application. Unit can be swung aside for access to die by removal of a locking pin. • **Die & Automation, Inc.**, 5353 Dixie Highway, Hamilton, Ohio.

▲ For more details circle NED-766 F on enclosed inquiry slip ▲

SYNCHRONOUS DIFFERENTIAL combines two motors and differential



Synchronization of two input frequencies is controlled by the Model 1652C-0463 synchronous differential. As one frequency changes with respect to the other, the output shaft rotates at a speed equal to one-half the difference in speed of its two synchronous motors. The unit combines two hysteresis synchronous motors and a mechanical differential within its 3 45/64-in. housing. Where the two frequencies synchronize, the output shaft remains stationary. Motor is rated 400 cycles at 115 v with total power input, 15 w. Synchronizing torque is 0.45 oz-in. minimum, fallout torque, 0.46 oz-in. minimum, and speed, 6000 rpm. Unit weighs 26 oz. • **Kollsman Motor Corp.**, Dublin, Pa.

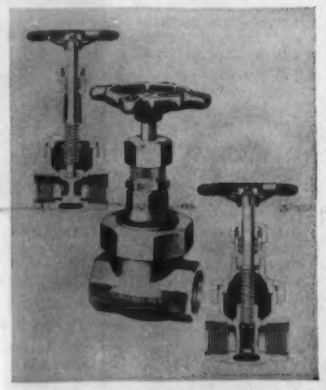
▲ For more details circle NED-767 F on enclosed inquiry slip ▲

ROLLING-FOLDING TABLE accommodates 20 folding chairs

Steel undercarriage of the 16-ft long Two-Fol rolling-folding table is self-supporting and self-standing. Legs pivot on steel U-channels which support the top panels, covered in a wide choice of Formica colors and patterns. Table folds to 30 x 21 x 63 in. for rolling to a storage area on 4-in. diameter ball bearing casters. Balance springs assist in folding and unfolding. Table is also offered with attached folding benches or it will accommodate up to 20 folding chairs. • **Rol-Fol Table, Inc.**, 8467 Melrose Place, Los Angeles 46, Calif.

▲ For more details circle NED-768 F on enclosed inquiry slip ▲

GATE VALVES have 125-150 psi steam ratings



Union bonnet, reinforced body, and cylindrical body neck section contribute to the maintenance-free design of this series of 125 to 150-psi steam pressure bronze gate valves. Fig. 3125 valve has double wedge disc and rising stem, whereas Fig. 3127 valve has solid wedge disc and rising stem. Fig. 3129 valve has single wedge disc and nonrising stem and is designed for restricted space installations. Lines handling gummy and tacky substances, or used in food processing service, are applications for Fig. 3127 valves. All feature nonslip handwheels, Stemalloy valve stems, deep stuffing boxes, and hexagon head glands. • **Lunkenheimer Co.**, Beekman Street & Waverly Avenue, Cincinnati 14, Ohio.

▲ For more details circle NED-769 F on enclosed inquiry slip ▲

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from ⅛ pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

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Bench Tops

LAMINATED HARD MAPLE

Steel bench bases, legs and drawers available for use with Tolco Tops. Write for complete illustrations and prices.

ESTABLISHED 1894
THE TOLERTON COMPANY
265 N. FREEDOM AVE. · ALLIANCE, OHIO

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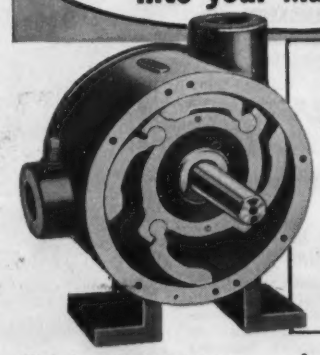
Here's why LEIMAN AIR PUMPS
Put "Lifetime" Dependability into your Machines!



HINGED, CURVED VANES OF DURABLE CAST IRON

Take up their own wear!

Four curved vanes on easy-action hinges maintain sealed contact with cast iron cylinder walls by centrifugal force. They hone themselves to hard, glassy smoothness to take up their own negligible wear. 2 to 3 times more air space is provided.

Typical reports from users:
"Never wear out or give trouble"
"Used 350 pumps without a complaint"
"Pumping 24 hours a day for 21 years"
"12 years without attention, except oiling"

LEIMAN
Rotary Positive
AIR PUMPS

Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

Leiman Air Pumps will last for the life of your equipment — providing fully-rated vacuum (suction) or pressure with little or no maintenance. Compact design has fewer moving parts. Air flow is smooth — operation extremely quiet. Every pump tested. Models and sizes to meet varying requirements. Engineering assistance on any design or application problem.

WRITE FOR NEW CATALOG plus Application Book showing hookups.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N.J.
Established 1887

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CM Hi-Pressure

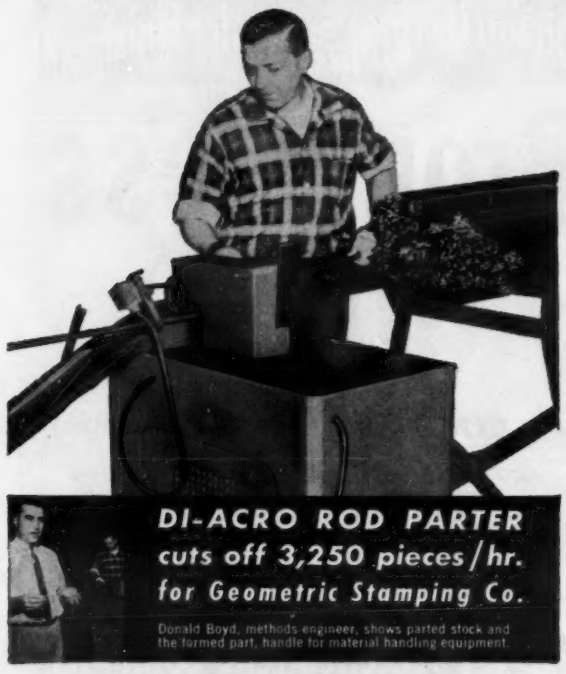
HANDLEBAR UNIONS

with 3-pitch standard Acme thread

Fast acting! Rapid make and break! Color coded for quick identification! Clayton Mark's new "Hi-Pressure" Handlebar Union offers dual seal of rubber-to-metal and metal-to-metal for high 6000 psi CWP rating. Also available with metal-to-metal seal for 4000 psi CWP rating.

CLAYTON MARK & CO.
1910 Dempster Street • Evanston, Ill.

▲ For more details circle NED-773 F on enclosed inquiry slip ▲



About 1½ million pieces of bar stock are parted off each year on a Di-Acro Power Rod Parter at the Geometric Stamping Co. Div. of Euclid Stamping Co. in Cleveland. Twenty-foot lengths of 5/16" cold drawn steel are cut to 7" pieces at a rate of 3,250 pieces per hour.

"Instead of investing in a single purpose punch press die," says Donald Boyd, methods engineer, "We picked the power parter for its versatility. On this job and a variety of other work the power parter has increased production two times—it's actually twice as fast. Incidentally, there has been little or no maintenance other than periodic lubrication and resharpening of die heads."

For your bar stock up to ⅝" in diameter, investigate the Di-Acro Rod Parter. Speedmatic gauge cuts as fast as operator can feed. Minimum distortion—pieces can be threaded without de-burring. One standard die cuts eleven sizes of rod. Special square, hex and other heads.

DI-ACRO HAND OPERATED ROD PARTER

Same size-range and accurate parting as power parter. Ejectomatic gauge automatically clears die after each cut.

For free booklet, "Handy Guide to Rod Parters," consult yellow pages under Machinery—Machine Tools for your nearest Di-Acro distributor, or write us.

Find Us Fast In The Yellow Pages

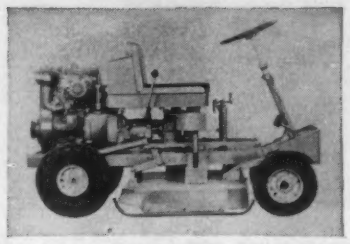
pronounced die-ack-ro

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MFG. CO.
354 Eighth Avenue
Lake City, Minnesota

▲ For more details circle NED-774 F on enclosed inquiry slip ▲

RIDING ROTARY MOWER
9-hp unit handles large acreages

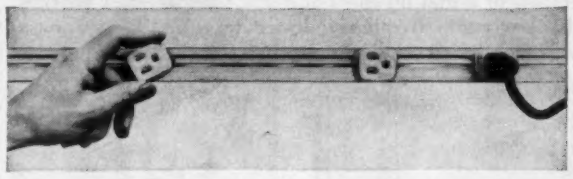


Self-contained, rear-engine driven Spinaway riding-type rotary lawnmower will handle large acreage jobs. A 9-hp engine drives both the cutter and rear wheels of the 42-in. machine. Features include fingertip controls for steering, cutting height, and speed, with a transmission that provides three speeds forward and one reverse. Road speed is up to 10 mph. Cutter power take-off ahead of traction clutch assures constant cutting speed regardless of vehicle speed. • **Hal-Gan Products, Inc.**, 13000 Bluemound Rd., Elm Grove, Wis.

▲ For more details circle NED-775 F on enclosed inquiry slip ▲

ELECTRIC OUTLET STRIP
accepts two and three-prong plugs

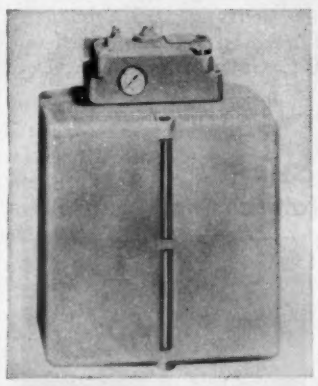
Electrical outlet anywhere along its length is provided by the 3-Wire Electrostrip, a flexible multiple outlet assembly made of extruded polyvinyl chloride and rated



20 amp, 125 v ac. It accepts two and three-prong plugs and mounts easily on any surface. Receptacles can be located or relocated anywhere along the strip, eliminating the need for long extension cords. • **I-T-E Circuit Breaker Co.**, BullDog Electric Products Div., Box 177, Detroit 32, Mich.

▲ For more details circle NED-776 F on enclosed inquiry slip ▲

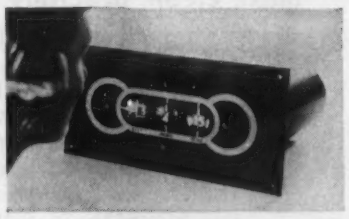
MIST COOLANT UNIT
becomes part of machine it services



Air filter, trap, regulator and gage, solenoid valve and conduit box, pressurized coolant reservoir, and filter are combined in the compact, self-contained Spraymist mist coolant unit. It has a 5-gal reservoir capacity and is engineered to become an integral part of the machine it services. Pressurized reservoir permits mounting in any location. Coolant and air are separately fed under pressure to the Jet Tip where they are atomized to produce the cooling mist without sputter or drip. Mist can be controlled from superfine to a heavy spray. Stub, rigid extension, and flexible jets are available for cutting, sawing, grinding, milling, and other cutting operations. • **Bijur Lubricating Corp.**, 151 W. Passaic St., Rochelle Park, N. J.

▲ For more details circle NED-777 F on enclosed inquiry slip ▲

POSITION INDICATOR
used in programmed machine tools



Accurate reading of positions at speeds of 130 fpm and accelerations up to 1 fps² are made by this high speed position indicator system. It is used with automatically programmed machine tools, production machinery, and processing equipment to continuously display location of work through progressive operations. Position sensor signals are transmitted electrically to a numerical indicator which displays readings in any required units through a 0 to 100-ft range. In semiautomatic production systems, the indicator serves as a rapid readout for the operator. The position sensor is connected by gears and linkages to almost any linear or rotary motion. The ½-in. high numbers are easily read at 20 ft. • **Sanders Associates, Inc.**, 95 Canal St., Nashua, N. H.

▲ For more details circle NED-778 F on enclosed inquiry slip ▲

FOR FAST ACTION SEND COUPON ON CARD OR LETTERHEAD

To: REPRODUCTION ENGINEERING CORPORATION
700 Westbrook Road, Essex, Connecticut

☐ I want Blu-Ray demonstration ☐ Rush brochure

Name _____ Title _____
Company _____
Street _____
City and State _____

HOW MUCH TIME AND MONEY DO YOU WASTE GETTING PRINTS?

Amazing BLU-RAY makes your Whiteprints in SECONDS for PENNIES!

Join the literally thousands who save as much as $75 out of every $100 formerly spent on routine check prints! Incomparable features of Blu-Ray, top machine on the market: Copies anything written, printed, typed or drawn on any translucent material; speeds up to 4½ feet per minute; makes 42-inch wide prints, any length. Anyone can operate — truly pays for itself.

GUARANTEED A FULL YEAR!

UL and CSA Approved

BLU-RAY

3 LAMPS FOR MORE SPEED • FINGER-TIP SPEED CONTROL • MAKES SEPIA REPRODUCIBLES

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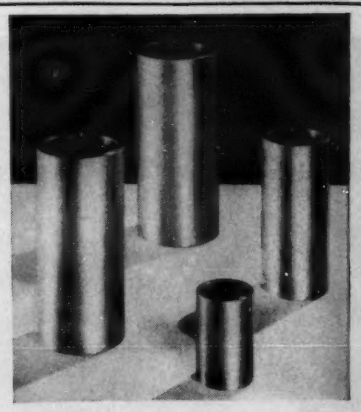
Johnson GP Bearings Do Same Job As Specials At 1/3 The Cost



Don't waste money using costly special bearings when quality Johnson Bronze General Purpose Standard Stock Bearings can do the same job—*with savings up to 66 percent.*

Johnson GP's, available in 214 ID-OD combinations and 21 lengths, have the same design features of most specials but at lower cost. More than 900 stock bearing sizes are available *quickly* from Johnson distributors. GP's can be supplied also with slots, grooves or holes at slight additional cost.

Don't lose out on quality or economy. Specify Johnson GP's—from your nearby Johnson Bronze distributor.

Johnson Bronze Company
New Castle, Pa.
West Coast Plant: Oakland 8, Calif.

▲ For more details circle NED-780 F on enclosed inquiry slip ▲

THIS PUMP MAKES LIQUID BEHAVE!

Flo-Trol, the automatic "drain-back" lever on Blackmer Flo-Master Hand Pumps, is a small feature that does big things for liquid handling safety. If the container is full and the pump handle is on the backstroke, the operator returns it to the upright position without causing the liquid to overflow. Eliminates dangerous and costly spillage, keeps pump handle out of the way, promotes safety and good housekeeping. Write for Bulletin 310.

"liquid materials handling" equipment
BLACKMER / hand pumps
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN
Find your Blackmer Man under "Pumps" in the Yellow Pages

▲ For more details circle NED-781 F on enclosed inquiry slip ▲

BASSICK SEALS IN CLEANLINESS ...LOW MAINTENANCE

Specially engineered lubrication seals end the hazards of dripping grease ...are effective for life... can be easily flushed and new grease added without disassembly. Keeps floors clean, saves time and money. Four page brochure gives all the facts. 0.29

Heavy duty for punishing service on power pulled trucks, assembly line dollies and fixtures. For loads up to 1,500 pounds.

Medium duty features heavy gauge steel construction, large diameter ball race for quiet, fast, easy swiveling. For loads up to 750 pounds.

THE BASSICK COMPANY BRIDGEPORT 5, CONN. IN CANADA: BELLEVILLE, ONT.

Symbol of SW Excellence Bassick A DIVISION OF STEWART-WARNER CORPORATION

▲ For more details circle NED-782 F on enclosed inquiry slip ▲

GO-GETTER CUTS COSTS IN HALF: MAKES JOBS SAFER

A leading chemical plant faced with the double explosion hazard of ethylbenzene fumes and aluminum chloride dust, solved its material handling problems — and saved money in the process—through the use of Revolvator's new fork lift trucks labeled Type Ex by Underwriters' Laboratories for Class 1 Group D explosion hazardous areas.

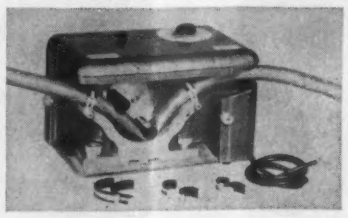
Previously, two men with a hand truck were required for this operation. Since the introduction of the Explosion Proof Go-Getter, one operator easily charges the hoppers in a safe manner with a minimum effort. "What used to be a dangerous, disagreeable job has now become a simple task," says the plant manager.

The explosion proof Go-Getter, available in 12 standard models, is but the latest development in Revolvator's better than a half century of experience in materials handling equipment covering standard walkie lift trucks, hand lift trucks, portable elevators and related equipment.

REVOLVATOR CO.
8732 TONNELE AVENUE, NORTH BERGEN, N. J.
SINCE 1904

▲ For more details circle NED-783 F on enclosed inquiry slip ▲

FLOW INDUCTION PUMP for volumes up to 500 gph

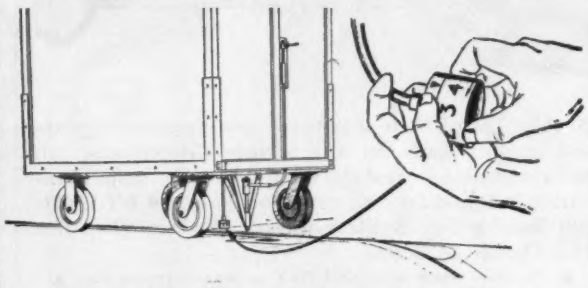


Flexible hose on a multicurved track is utilized by the H. R. Flow Inducer pump to move liquids, slurries, emulsions, gases, creams, dried powders, and other materials. Materials never touch metal parts. The induction pump is driven at up to 200 rpm by a stepless variable speed motor, and accommodates hose diameters up to 1 in. It is self-priming and can be run dry. Delivery per revolution is virtually constant, enabling use for dosing or metering. It will also generate and hold a considerable vacuum, and may be used as an oil-free compressor. Reversing switch permits flow in either direction. Capacity is variable from a few cubic centimeters per minute to almost 500 gph. • **Schueler & Co.**, Schuco Scientific Div., 75 Cliff St., New York 38, N. Y.

▲ For more details circle NED-784 F on enclosed inquiry slip ▲

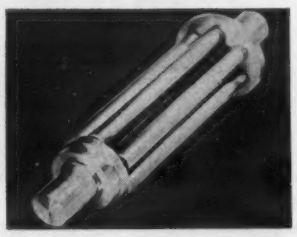
AUTOMATIC TRUCK SELECTOR for in-the-floor Towveyor systems

Setting of a dial on the Towmatic truck selector enables the low radio frequency device to route a warehouse or plant truck and announce its arrival at a predetermined transfer point or loading station. The selector is designed for in-the-floor Towveyor installations requiring less than six transfer points or unloading or loading stations. Radio frequencies alert employees of the truck's approach by activating bells, buzzers, or lights. Unit is readily removed and reinstalled on trucks. • **Jervis B. Webb Co.**, 8951 Alpine Ave., Detroit 4, Mich.



▲ For more details circle NED-785 F on enclosed inquiry slip ▲

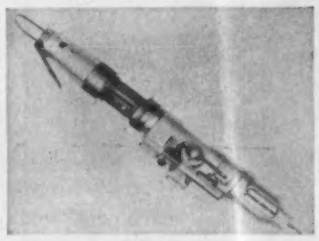
AUTOMATIC GRIP SHAFT releases when roll tension stops



When the hex shaft of the self-contained automatic grip shaft is turned, six rubber - grommeted tubes expand outward along the entire length of the core. This provides an even-tensioned, non-slip, concentric grip within the core, which is released instantly when roll tension stops. Grip shaft can be inserted from either end of the core, or is equipped with a positioning collar for single-end use. Any length is available to fit certain bearings and drives. • **A-C Equipment Co.**, 8207 Christiana Ave., Skokie, Ill.

▲ For more details circle NED-786 F on enclosed inquiry slip ▲

MECHANICAL FEED DRILLS make clean, precisely located holes



Holes drilled with Mech - feed mechanical feed drills seldom require reaming, even on tough materials. There is no plunging on break - through, and constant feed minimizes the amount of burr at the hole rim. The Multi-Vane air motor powered units drill precisely located holes at difficult angles, utilizing a wide range of feed and speed adjustments. The drill is automatically fed at a predetermined 2, 3, 4, 6, or 8 thousandths of an inch per revolution until a preset depth is reached. Units are available in 12 drill speeds from 450 to 4500 rpm, two power ranges, with straight or offset handles, and with 0 to 5/16-in. drill chuck capacity. Forward travel and quick return are easily adjusted from 0 to 1¼ in. • **Ingersoll-Rand Co.**, Phillipsburg, N. J.

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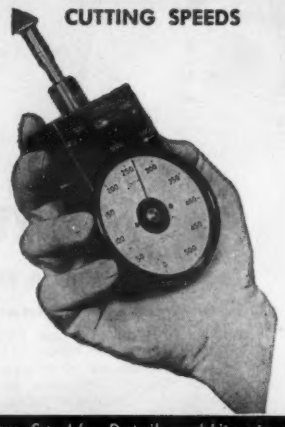
SMITHS TACHOMETERS

For Precise and Rapid Measurements of

- **Magnetic Design** Steady readings accurate to ±0.5% at any part of any scale.
- **Instantaneous Reading** No timing or waiting.
- **Self-Powered** Needs no battery. Always ready for immediate use at full accuracy.
- **Nine Ranges** To 50,000 rpm on highest. Interpolate tenths of rpm on lowest.
- **Overspeed Protection** Inherent and built-in.
- **Hold Button** "memorizes" reading when desired.

SHAFT SPEEDS
SURFACE SPEEDS
CUTTING SPEEDS



Complete Service Facilities — Send for Details and Literature

CLARENCE J. MARX CO.
Box 4033, Cleveland 23, Ohio

▲ For more details circle NED-788 F on enclosed inquiry slip ▲

Do You Use Bronze Powder Finishes?

Bronzeless GOLDS

---COST LESS (more mileage)
----NEVER Tarnish
-----NON-GELLING
------Supplied READY MIXED

Write Now for Bulletin L-660 and Color Chips

BEE CHEMICAL COMPANY
LOGO DIVISION
12933 South Stony Island Avenue, Chicago 33, Illinois
Phone: Mitchell 6-0400
GARDENA, CALIFORNIA • HARTFORD, CONNECTICUT

▲ For more details circle NED-789 F on enclosed inquiry slip ▲

WATER SAVING

WITH TROUBLE-FREE COOLING EQUIPMENT

NIAGARA Aero HEAT EXCHANGER

•

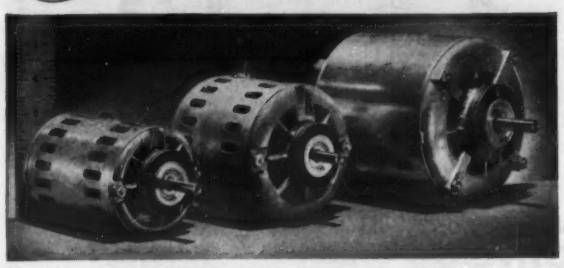
Convenient Units Up To 30,000,000 BTU Capacity

Cools your jacket water for engines or process equipment or electric apparatus. Your closed system keeps free from dirt or maintenance troubles. You can cool air, gases, chemicals, quench baths, plating baths, welding machines, extrusion and drawing machines. You get real precise temperatures, save rejections, lower production costs. Use NIAGARA AERO HEAT EXCHANGER cooling with atmospheric air... saves water, pumping, piping and power; quickly saves its costs. Write for Bulletin No. 132.

NIAGARA BLOWER COMPANY
Dept. ED-6, 405 Lexington Ave. New York 17, N. Y.

▲ For more details circle NED-790 F on enclosed inquiry slip ▲

SMALL, QUIET, CONSTANT SPEED AC MOTORS



- 3" dia.: 15 mhp thru 1/12 hp (2-pole); thru 1/20 hp (4-pole)
- 3 7/8" dia.: 15 mhp thru 1/3 hp (2-pole); thru 1/8 hp (4-pole); thru 1/20 hp (6-pole)*
- 4 7/8" dia.: 1/20 hp thru 1/4 hp (2- and 4-pole); thru 1/8 hp (6-pole)*
  - **SMALL, LIGHT:** enhances your product designs.
  - **SAVE:** space, weight, freight.
  - **DEPENDABLE:** long life—minimum service costs.

*3-phase ratings also available.

FREE BULLETIN! Write for descriptive bulletins to Section 633-4, Schenectady, N. Y.

GENERAL ELECTRIC

▲ For more details circle NED-791 F on enclosed inquiry slip ▲

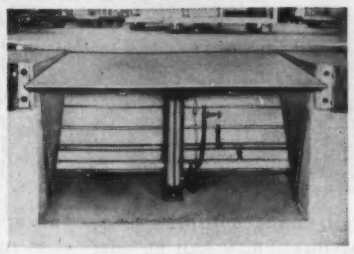
goodbye monday morning
air line
moisture blues

Start up pneumatically-operated tools and equipment **immediately** with clean dry air after week-end or overnight shut-downs. Low-cost Hi-eF Purifiers with improved separating efficiency enables plants to start up instantaneously without downtime to remove damaging moisture in air and steam lines. Absolutely no maintenance, filters or screens required. BULLETIN 503 tells how to deliver clean, dry air and steam to pneumatic and steam-operated equipment. Yours free. Write.

THE V. D. ANDERSON CO. 1988 W. 96th St., Cleveland 2, Ohio
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION

▲ For more details circle NED-792 F on enclosed inquiry slip ▲

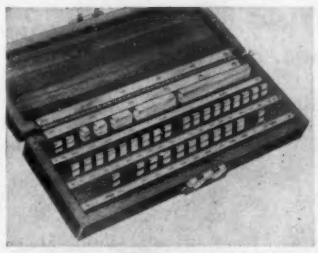
AUTOMATIC DOCK RAMP
is air-powered hydraulic unit



Transfer of goods safely between loading platform and vehicle is obtained with this Autoramp air-operated hydraulic dock ramp. It adjusts to the level of the truck or trailer floor at a touch of a button. When the vehicle leaves the dock, ramp raises automatically, ready for next truck. • **Adeco Construction Co.**, Autoramp Div., 216 Crown St., New Haven, Conn.

▲ For more details circle NED-794 F on enclosed inquiry slip ▲

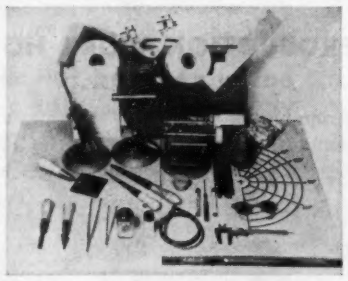
GAGE BLOCK SET
includes 36 blocks and wear blocks



Accuracy of +0.000004 in., −0.000002 in. of Grade A+ gage blocks exceeds U. S. Bureau of Standards specifications for Grade A blocks. They are furnished in a set of 36 blocks and two 0.100-in. Croblox wear blocks. "Wringing" two or more blocks together makes a number of combinations available. Blocks are supplied in a melamine plastic chest with walnut finish. Price is $157.50. • **Webber Gage Co.**, 12900 Triskett Rd., Cleveland 11, Ohio.

▲ For more details circle NED-795 F on enclosed inquiry slip ▲

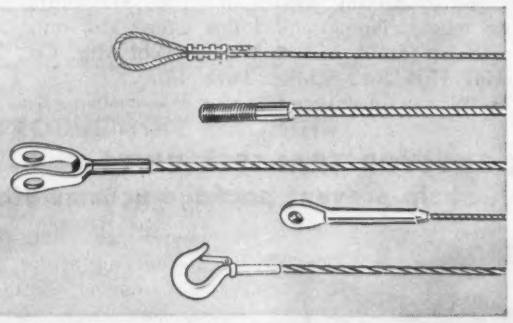
GLASSBLOWING KIT
contains essentials for limited work



Physicists, chemists, engineers, and others who make and repair glass apparatus systems or glass-to-metal seals will find all the essential tools for bench glassworking in glassblowing Kit K2. It enables relatively unskilled persons to make simple apparatus and to construct, modify, and repair glass systems for chemical or vacuum use. Tools in the kit include the spandle which holds in alignment tubes being sealed, a sharp flame hand torch with wide range of flame adjustment, a flat carbon handle set on angle to carbon surface for straightening tubes by rolling, and a three-bladed carbide knife. Kit sells for $246 with asbestos workboard; $231 without the board. • **Bethlehem Apparatus Co.**, Front-Depot Streets, Hellertown, Pa.

▲ For more details circle NED-796 F on enclosed inquiry slip ▲

Are The Cable And Assemblies You Use Designed Specifically For Your Needs?



Or are you "getting by" with possibly less efficient, costlier-in-the-long-run substitutes? There's no need to settle for stock items if custom-designed Bergen cable and assemblies could do your job better, safer, for less.

Bergen has the experience, the equipment and the personnel to produce *the* cable and assembly your project requires . . . and deliver it quickly. Don't waste another day or dollar . . . bring your cable and assembly problems to Bergen today.

FREE! Send for Assembly Catalog CA-2

BERGEN
WIRE ROPE CO.
502 GREGG ST • LODI, N.J.
Specializing in the Unusual

▲ For more details circle NED-793 F on enclosed inquiry slip ▲

the electro-probe

NEW, LOWER COST ELECTRONIC GAGING

The new Electro-Probe Model 230 P-2 is far more than just another electronic test indicator.

- **No need for special stands or holding fixtures.**
- **No need for external power.**
- **No voltage fluctuation or warm-up problems.**
- **No need for close gage head positioning during set-up.**

The Electro-Probe introduces a new concept in Dimensional Control. Use of *printed circuits* and *transistors* means trouble-free performance. Connections are sure, operating current amazingly low — no heating or voltage regulation problems, no dependence on electrical outlets. Learn more about this truly portable, reliable, accurate and versatile gaging device.

Write for Literature.

FEDERAL PRODUCTS CORPORATION
6176 Eddy Street • Providence 1, R. I.

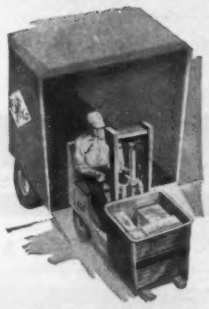
Ask **FEDERAL** *First*
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-797 F on enclosed inquiry slip ▲

IT'S A FACT YOU CAN DO BETTER WITH

DE-STA-CO

TOGGLE CLAMP DELIVERY



BECAUSE, with stocking Distributors from coast-to-coast, you can always get quick delivery of the right clamps for the work at hand . . . RIGHT WHEN YOU NEED THEM!

Whatever the size or shape of the piece to be held—wherever you have to push, pull or lock with forces from 50 to 10,000 pounds—it's a hundred-to-one there's a DE-STA-CO Toggle Clamp in stock to fit the job exactly.

FOR YOUR NEARBY DISTRIBUTOR CONSULT YOUR YELLOW PAGES!

FOR MORE FACTS
WRITE FOR TEMPLATE SET AND CLAMP CATALOG

YOU CAN DEPEND ON DE-STA-CO

DETROIT STAMPING COMPANY
350 MIDLAND AVENUE
DETROIT 3, MICHIGAN

▲ For more details circle NED-798 F on enclosed inquiry slip ▲

GET THIS NEW GRIPCO FASTENER MANUAL FREE!

This new technical bulletin gives all the engineering data and outstanding features of the Gripco line of locking fasteners, including Gripco Lock Nuts, Centerlock Nuts, Gripco and Centerlock Hi Nuts, Gripco and Centerlock Jam Nuts, Pilot-Projection Weld Nuts, Countersunk Weld Nuts, Clinch Nuts, the new Miniature Clinch and Weld Nuts, as well as Standard hexagon nuts in Steel or Brass. Full or Jam dimensions. Profusely illustrated, complete with application information on the self-locking features of the Gripco line, this manual should be in the hands of everyone who is faced with a fastener problem.

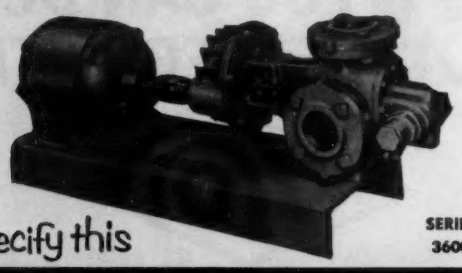
123

Send for yours today.

GRIP NUT COMPANY
106 Maple Ave., South Whitley, Ind.

▲ For more details circle NED-799 F on enclosed inquiry slip ▲

For positive, reliable pump service for your liquid transfer operations...



Specify this SERIES 3600

ROPER General Purpose **PUMP**
40 TO 300 GPM . . . TO 100 PSI

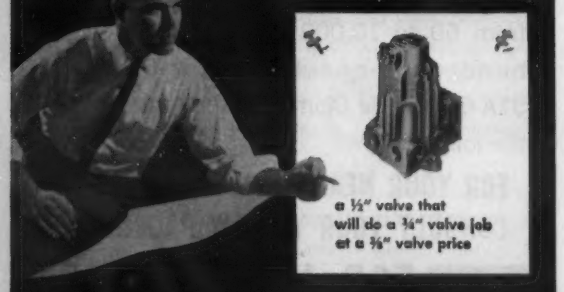
- Handles a wide range of thick or thin liquids
- Self-lubricated by liquid being pumped
- Totally-enclosed gear reduction—choice of 3 ratios
- Furnished on bed plate, with or ready to receive standard motor
- Use indoors or outdoors . . . no pump house needed

Roper Hydraulics, Inc.
COMMERCE, GEORGIA

ROPER ROTARY PUMPS

▲ For more details circle NED-800 F on enclosed inquiry slip ▲

Compare what the PDQ WILL DO...
Compare the PDQ PRICE...
With any other air valve



The PDQ has faster response time, greater capacity than valves twice its size and 4 times its weight. To repack . . . replace 2 self-contained units in less than a minute! Change valves on the line in 30 seconds! The PDQ has a short stroke, rugged aluminum construction with built-in wear compensation. Write us today.

- ✓ Accessibility
- ✓ Simplicity
- ✓ Speed and Capacity
- ✓ Price and Quality

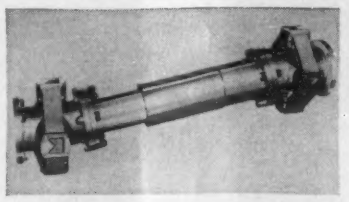
The Hunt PDQ Valve tops them all in every class.

HUNT VALVE COMPANY · SALEM, OHIO, U.S.A.

HUNT *Quick-As-Wink* AIR & HYDRAULIC CONTROL VALVES

▲ For more details circle NED-801 F on enclosed inquiry slip ▲

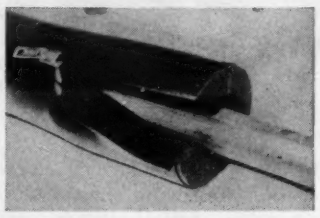
UNIVERSAL DRIVE
has 2000-hp rating at 1000 rpm



An eight-bolt flange, four bolt and key type, or shear pin connection arrangement may be specified on the Torq-Ring 500 universal drive. Suited for rail, mine, marine, rolling mill, and general industrial application, it can be adapted to meet special drive arrangements and torque ratings. It is rated for over 2000 input hp at 1000 rpm. Standard roller bearings with inner races facilitate maintenance. Open end bearing design is self-purging when lubricated. Slip spline in the drive allows 8-in. movement. • **Koelling Universal Joints, Inc.**, 5526 Dyer St., Dallas 6, Tex.

▲ For more details circle NED-802 F on enclosed inquiry slip ▲

INSULATED JACKETING
zipped onto pipes, cables, ducts

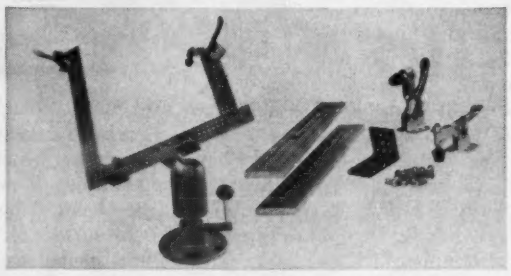


Any particular combination of jacketing and insulation materials to meet specific needs is possible with Ductwrap insulated jacket for pipes, cables, and ducts. Made with a plastic zipper closure, cover is offered with asbestos, foam vinyl, silicone rubber, and Thermoflex insulation liners and with vinyl, vinyl coated nylon, Mylar, reflective asbestos, and aluminized silicone rubber jacketing materials. Dustwrap is shipped as a flat tape, in continuous lengths if desired, for zipping onto pipe in a one-step operation. • **Zippertubing Co.**, 752 S. San Pedro St., Los Angeles 14, Calif.

▲ For more details circle NED-803 F on enclosed inquiry slip ▲

PRODUCTION WORK HOLDER
easily changed for new jobs

Assembly of electronic, aircraft, and other light components is simplified with the Erect-Your-Own work holder. Production run changes are quickly made, using only a screwdriver. Holder is used with the Wilton PowRarm or bolted to a worktable or bench. The complete kit or individual components are available. Kit contains two 18-in. perforated strips and three 90-degree connecting angles of ¼-in. aluminum plate, two toggle clamps, and 1 doz screws and nuts. Perforations are ¼ in. • **Wilton Tool Mfg. Co.**, 9525 Irving Park Rd., Schiller Park, Ill.



▲ For more details circle NED-804 F on enclosed inquiry slip ▲

CONVEYOR TRANSFER UNITS
help prevent package accumulation

A manual right-angle transfer device and a live roller powered transfer section are accessories which increase the versatility of Rapistan adjustable pressure conveyors and prevent package accumulation. Manual unit is operated by either hand or foot lever which elevates set of wheels at right angles to the main line for effectively moving items on or off the APC conveyor. Transfer section is furnished in 2-ft lengths, 18 or 24 in. wide. Live roller unit, powered by the same belt driving the main line, enables materials to be merged from two conveyor lines into one line, or from a single line into two lines. Solenoid-operated case stops are also available. • **Rapids-Standard Co.**, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-805 F on enclosed inquiry slip ▲

Save Time and Money with this DINGS Portable Magnetic Separator

Ideal for:

Scrap Separation, Tumbling Barrel Applications

Just wheel this new Dings TBS all-purpose Magnetic Separator right up to the job! Quality of separation and product purity are improved because feed rate can be controlled and magnetic intensity adjusted.

HERE'S HOW IT WORKS

Dings TBS consists of a portable conveyor, hopper with adjustable gate, vibrating feeder, and a Self-Cleaning Perma-Plate Magnet. An even layer of material is fed to the conveyor, and as it passes under the magnet, iron is lifted to the moving cross-belt and discharged to one side.

New Dings TBS units are completely field tested for effective performance. Write for details in Bulletin 1215-A.

Dings

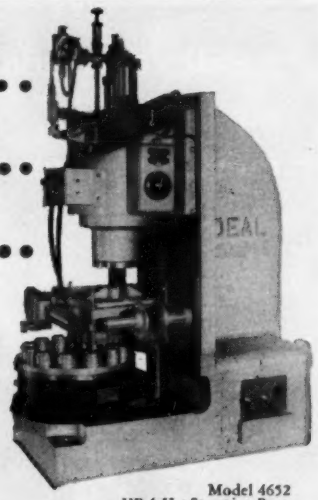
DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave., Milwaukee 46, Wis.

TBS—159 ¼

▲ For more details circle NED-806 F on enclosed inquiry slip ▲

IMPRINT.. IMPRESS.. MARK.....

in any **COLOR** with the **IDEAL** Hot Stamping Press



Model 4652
HRA Hot Stamping Press, equipped for use on plastic bottle caps.

It's IDEAL for use on rigid plastic bottles, plastic bottle caps, shoe insoles, brief cases, wallets, novelties, purses and many other items. Hot stamping head is available as a separate item for custom installations; adaptable for use on standard presses, air or hydraulic. Get HIGH performance at LOW cost. For prices and complete information, write today.

IDEAL STENCIL MACHINE CO.
134 Ideal Block • Belleville, Ill.

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Are you working too hard at the job of tube end-forming?

Tube flaring, flanging, beading, deburring, notching, mitering, punching, swaging, flattening, expanding and profiling are very easy with any one of Leonard's Tubemaster machines. Check it out and see!

Write direct to Leonard Precision Products Co.
Dept. S, 9200 Bolsa Avenue, Santa Ana, California.

▲ For more details circle NED-808 F on enclosed inquiry slip ▲

129 CUSTOM

hydraulic pump and motor combinations . . .

off the shelf!

Here are power sources for any hydraulic application. Commercial, military, and aviation research have developed this array of standard pump and motor combinations.

With a performance range from .1 to 5 G.P.M. at pressures to 2000 P.S.I., you can expect a stock power source that fits your requirements. Many types of motors offer a choice of electrical characteristics, and are drip-proof, totally enclosed, or have explosion-proof enclosures as required.

When you need custom equipment, call on Eastern and discover how this adaptable line of hydraulic pumps and motors fills the bill without research expense by you.

For full performance data on pump and motor combinations, write for new Bulletin 810-X.

Eastern INDUSTRIES, INC.
100 SKIFF ST., HAMDEN 14, CONN.

▲ For more details circle NED-809 F on enclosed inquiry slip ▲

LEADING TEXTILE COMPANY

Announces Development

OF

DISPOSABLE CLOTH TOWELS

YOU ARE INVITED TO TRY ONE OR ALL STYLES

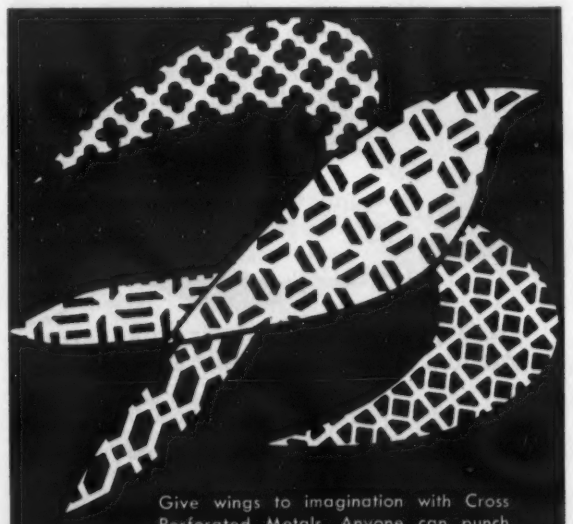
DESIGNED FOR

HAND TOWELS — WIPING — POLISHING — DUSTING

RSVP FOR SAMPLES & INFORMATION

CHICOPEE MILLS, INC.
47 WORTH ST., N. Y. 13, N. Y.

▲ For more details circle NED-810 F on enclosed inquiry slip ▲



Give wings to imagination with Cross Perforated Metals. Anyone can punch holes in steel, but few can match the variety of Cross designs. Perhaps no one can match the clean, true perforations in Cross patterns. When you need the functional beauty and strength of perforated metal, call or write Cross.

NS NATIONAL STANDARD COMPANY

Cross Perforated Metals
NATIONAL-STANDARD COMPANY
Carbondale, Pa.

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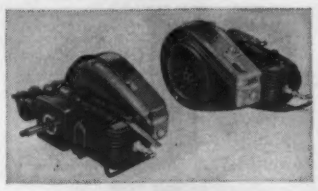
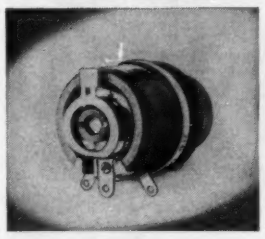
2-CYCLE GASOLINE ENGINES
provide good "lugging" ability



Mowers, brush cutters, saws, pumps, generators, elevators, and other portable, powered equipment are typical applications for line of air-cooled, 2-cycle gasoline engines. Smallest Series 390 engine with 3.9 cu in. displacement develops 1.6 hp at a governed 4000 rpm. Series 580 and 700 Power Bee engines are ungoverned and designed for continuous high speed operation. They have respective displacements of 5.8 and 7.0 cu in. and are rated 4 and 5 hp at 4500 rpm. All models have a flat torque curve to provide good "lugging" ability. Optional accessories adapt them to equipment needs. • **West Bend Aluminum Co.**, Industrial Engine Div., Hartford, Wis.

▲ For more details circle NED-812 F on enclosed inquiry slip ▲

POWER RHEOSTATS
operate under severe conditions



Smooth variation of resistance under severe operating conditions, even extreme temperatures, is delivered by line of power rheostats. Units have all ceramic construction and deep core on which resistance wire is toroidally wound. Types R-50, 75, 100, and 150 have a torsion spring assembly which provides uniform pressure of contact brush against the winding at all times. Current flows from brush through a flexible shunt wire to a large size slip ring. Design minimizes backlash in rotating assembly. • **Model Engineering & Mfg. Inc.**, Tru-Ohm Products Div., 2800 N. Milwaukee Ave., Chicago 18, Ill.

▲ For more details circle NED-813 F on enclosed inquiry slip ▲

TOOL HOLDERS
chip breaker adjustment is simple

Thumb-operated screw affords simple and quick adjustment of chip breaker plate on Dial - A - Breaker Kendex tool holders. While indexing or replacing an insert, chip breaker is lifted by spring under the knurled nut when the insert clamp is loosened. Breaker setting is retained while changing the insert, regardless of tool position. The whole chip breaker assembly can be removed when not required. Tool holders are especially suited for rear carriage positions and close ganging. Insert clamp is adjusted with an Allen wrench at top or bottom of the holder. Seventy styles and sizes accommodate standard square and triangular throw-away inserts and solid Kennametal shims. • **Kennametal Inc.**, Lloyd Avenue, Latrobe, Pa.

▲ For more details circle NED-814 F on enclosed inquiry slip ▲

REPRODUCTION MACHINE
diazo type makes prints to 54 in.

Developer vapor passing through perforations in stainless steel rollers of the Star dry-diazo reproduction machine saturates the entire surface of the print for one - pass development at low, high, or fluctuating speeds. Machine is made in 24, 42, and 54-in. printing widths with 4000, 5000, or 7500-w lamps and a speed range of 45 to 75 fpm. All models feature automatic copy-master separation. Illuminated front tray is adjustable to stack 12 to 18-in. prints. Rear tray with magnetic stops is wide enough to take all prints coming from the machine. An enclosed roll stock compartment holds two 100-yd rolls. Machine is available for sale or lease. • **Charles Bruning Co.**, Paragon-Revolute Div., 1800 W. Central Rd., Mt. Prospect, Ill.

▲ For more details circle NED-815 F on enclosed inquiry slip ▲

RACKS-BALCONIES-SHELVING AT ½ THE USUAL COST

USE TUBE-STRUT or BEAM-STRUT

with either ORDINARY PIPE, CHANNEL or I-BEAM

1000 OTHER USES

USE & RE-USE BOTH PIPE & CLAMP INDEFINITELY IN 1000 WAYS

FREE STORAGE RACK REFERENCE LIBRARY

YOU WILL RECEIVE:

- Be Your Own Storage Rack Expert (24 pg. illustrated course)
- A World of New Uses For Pipe
- Capacity Graphs for Standard Channel, I-Beam or Pipe
- 12 Case Histories of How Other Firms Solved Storage Problems
- ...and many other valuable pieces!

FOR FREE LIBRARY MAIL TO TUBE STRUT CORP. 2960 Marsh St. Los Angeles 39, Calif.

NAME _____ NED-6
FIRM _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

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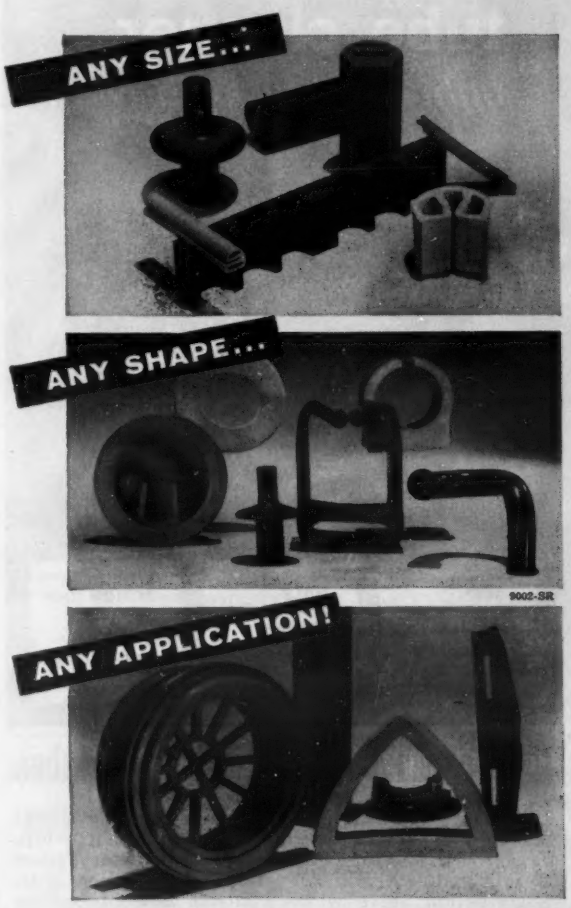
STALWART

PRODUCES PRECISION CUSTOM RUBBER PARTS TO YOUR EXACT SPECIFICATIONS



Compounded from all types of natural and synthetic rubber, Stalwart custom parts are molded, extruded, cut, calendered, sponged or spliced to meet the most exacting performance requirements . . . as well as all standards specifications established by military and industrial organizations. Every Stalwart customer is assured of the highest quality plus important production economies . . . through modern production facilities, advanced compounding techniques and extensive testing facilities. Write us today about your special rubber parts problem or check with Stalwart's Plastics Division for injection molded parts to meet your requirements.

Send for your copy of the new Stalwart Catalog.

THE WORLD'S LARGEST PRODUCER OF SILICONE CUSTOM RUBBER PARTS

STALWART RUBBER COMPANY

Northfield Road
Bedford, Ohio
Subsidiaries:
Jasper Rubber Company
Warren Molded Plastics, Inc.

▲ For more details circle NED-817 F on enclosed inquiry slip ▲

B&P MAGNESIUM DOCKBOARDS

—engineered by the builders of the Vanguard Earth Satellite Sphere

COMPARE THESE IMPORTANT FEATURES:

- ✓ Exclusive, rugged forged ends on one-piece curb
- ✓ Full length hand grip for safe handling from any position
- ✓ Yellow lane markings on *all* boards
- ✓ Heat treatment after welding for longer life

Compare *all* the B & P features! Write today for the fact-packed B & P Dockboard folder.

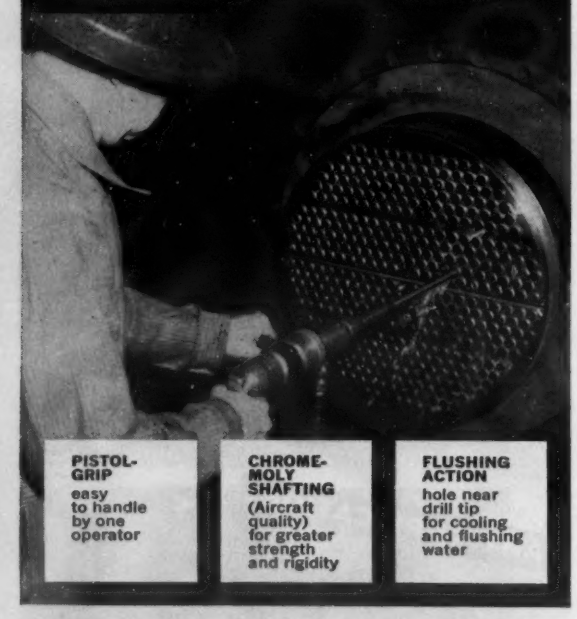
60-MH-5

BROOKS & PERKINS, Inc.
1928 WEST FORT STREET • DETROIT 16, MICHIGAN

AMERICA'S LARGEST MANUFACTURER OF MAGNESIUM ASSEMBLIES

▲ For more details circle NED-818 F on enclosed inquiry slip ▲

newest
ELLIOTT
tube cleaner
lightweight! air-driven!



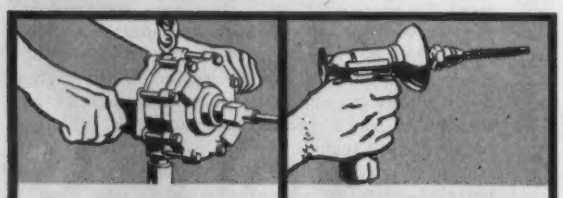
PISTOL-GRIP easy to handle by one operator

CHROME-MOLY SHAFTING (Aircraft quality) for greater strength and rigidity

FLUSHING ACTION hole near drill tip for cooling and flushing water

for condenser and heat exchanger tubes

Lightweight. Powerful. Air-driven. Trigger-action control with speed governor to prevent shaft-whip. High-speed motor reduced through planetary gears to 1500 rpm. Integral water-feeding attachment with finger-action valve which controls flow of cooling water into hollow shaft and drill or brush. Drills and brushes for varied needs. Built-in oil reservoir. Send for tube cleaner bulletin Y-48.



SUSPENSION TYPE Air, steam or electric heavy-duty motor, for removing hard, heavy deposits. Ball bearings absorb thrust in either direction.

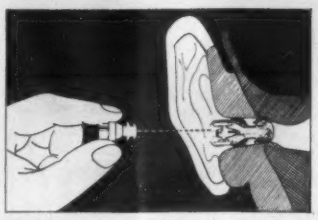
ELLIOTT JIFFY GUN For extra-fast, cleaning of light deposits in tubes ½ in. to 1¼ in. Air or water pressure shoots nylon brushes or rubber plugs through tubes.

ELLIOTT Company
Lagonda Plant—Springfield, Ohio

V9-1A

▲ For more details circle NED-819 F on enclosed inquiry slip ▲

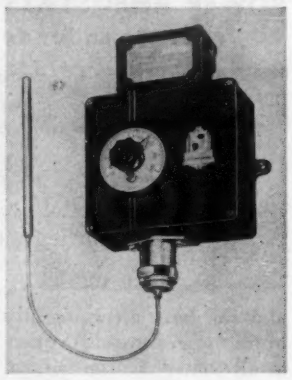
HEARING PROTECTOR
removes harmful energy from noise



Hearing is safeguarded without plugging or sealing the ears by Lee Sonic Ear-Valvs. The tiny ear-insert type hearing protectors contain an inner mechanism which automatically removes the harmful energy from loud noise, at the same time allowing wanted sounds to get through. No partial sensation of deafness is created, and the ear canal remains constantly open for normal air circulation. • **Sigma Engineering Co.**, 1491B Vine St., Los Angeles 28, Calif.

▲ For more details circle NED-820 F on enclosed inquiry slip ▲

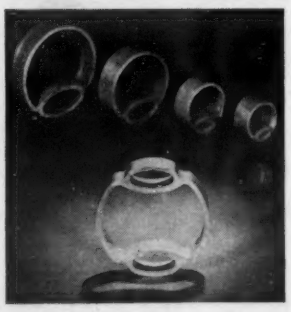
TEMPERATURE CONTROL
explosionproof, nonindicating type



Sealed enclosure of the Model GVS temperature control contains a snap-acting switch to control an electrical circuit that actuates valves, solenoids, motors, heating elements, or other appliances. Temperature is sensed by a mercury-filled thermal element placed in the medium to be controlled. The explosionproof, nonindicating device has a setting knob to establish the control point. It will maintain temperature by controlling the flow of steam, oil, gas, or electricity, or it can be used to regulate the flow of a coolant. Ten ranges from −30 to 1100° F are offered. • **Partlow Corp.**, 534 Campion Rd., New Hartford, N. Y.

▲ For more details circle NED-821 F on enclosed inquiry slip ▲

STEAM-TRACED PIPING
has two heating medium passages



Built-in channels in Duotrace steam-traced extruded piping simplify and minimize the cost of recirculating heating fluids in piping systems. The heating medium travels through one small oval passage of the one-piece tubular product (foreground), maintaining temperature of bulk material in the product line to insure a free flow. If necessary, the heating fluid can be reheated at a terminal prior to being returned through the second integral channel. Duotrace pipe and fittings are available in 2, 3, and 4-in. pipe sizes. Other applications include the circulation of refrigerants and conveying several products in one system. Unitrace pipe sections are shown in the background. • **Aluminum Co. of America**, 1501 Alcoa Bldg., Pittsburgh 19, Pa.

▲ For more details circle NED-822 F on enclosed inquiry slip ▲

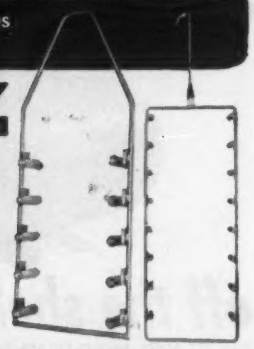
VERNIER PERIPHERY TAPE
measures diameters to 0.001 in.

Diameters of round or out-of-round parts or tanks are accurately obtained with only one measurement by using vernier periphery Pi Tape. The true diameter is read directly from the tape, accurate to 0.001 in. by virtue of its graduations and vernier. Tape can be used on parts with diameters of 2 in. or more, or used on flat sheet metal to give direct finished diameter readings. It is also available with go and no-go tolerance graduations. Tape is made of 0.010-in. thick spring steel with engraved graduations and numerals. Fifteen sizes for 2 to 12 in. to 132 to 144-in. diameters are offered for $20 to $59. • **Pi Tape**, 7952 North Ave., Lemon Grove, Calif.

▲ For more details circle NED-823 F on enclosed inquiry slip ▲

NEW! FASTER RACKING

for conveying all Sizes and Shapes of Stampings, Parts, etc.



ERIEZ

permanent non-electric
ERIUM-POWERED*
MAGNA-RAX

**Erium—an exclusive, high quality permanent magnetic power source specifically designed and energized by Eriez.*

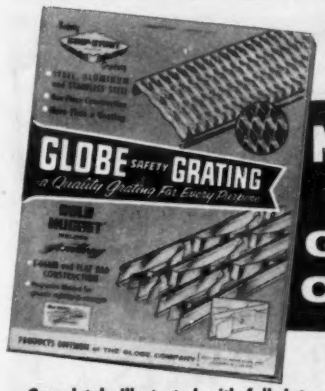
GET INCREASED CONVEYING EFFICIENCY. Magna-Rax magnetic power holds parts firmly in place while being conveyed . . . loading and unloading is faster . . . easier! One model will handle hundreds of sizes and shapes of parts . . . Magna-Rax are ideal for assembly line operations, where parts are conveyed from one point to another. Magnetic strength firmly holds parts while many operations such as tack off, dipping, spray painting, coating, degreasing, washing, inspecting, etc., are being performed . . . no need for special holes, lips, etc., on the parts as a means of holding.

Ideal for overhead or monorail systems. Rust and corrosion resistant . . . unaffected by temperatures up to 750°. Available in most any size and shape and with any number of Holding Magnets.

ERIEZ

Write for data on this exciting new product • Eriez Mfg. Co., 80-FA Magnet Dr., Erie, Pa.

▲ For more details circle NED-824 F on enclosed inquiry slip ▲



FREE!
New Globe SAFETY GRATING CATALOG

Completely illustrated with full data, load charts and specifications on these two superior open steel floor gratings:

★ **SAFETY GRIP-STRUT GRATING**
Of one piece construction in Steel, Aluminum and Stainless Steel.

★ **GOLD NUGGET WELDED GRATING**
I-Beam and Flat Bar construction—projection welded for greater rigidity and strength.

For architects, consulting engineers, plant superintendents, maintenance engineers, safety engineers, contractors, builders—for every safety purpose . . . fire proof, slip proof, maximum strength with minimum weight—cool in summer, warm in winter, self cleaning. A grating for any purpose, any load, any budget.

Write for your free copy TODAY.

113

PRODUCTS DIVISION THE GLOBE COMPANY
4002 S. Princeton Ave., Chicago 9, Illinois

▲ For more details circle NED-825 F on enclosed inquiry slip ▲

New "PushOn-PullOff" Tube Plug and Connector

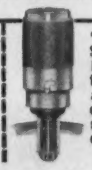
INSTANTLY CONNECTS PRESSURE AND VACUUM LINES TO STRAIGHT END TUBING

for AIR, WATER, STEAM, FREON, ETC.

Simply push the Connector over end of tubing and press to "stop" position. This **AUTOMATICALLY** locks tubing into place for a leak-proof seal. To unlock, press button and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for 1/4" to 1" OD tubing. Other sizes to order. Write for Calalog and prices.

"Quick-Seal" Self Sealing Test Plug. Uses test pressure to insure leak-proof seal. Capacities to 500 psi.

Expanding Seal Test Plugs and Filling Connectors.



"Quick-Seal" Self Sealing Filling Connector — adapts and seals air or liquid pressure lines to openings.

mechanical mp products
MECHANICAL PRODUCTS CORPORATION
1724 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

▲ For more details circle NED-826 F on enclosed inquiry slip ▲

From Seattle to Sydney, from Boston to Bombay, those who demand the best insist on Kerotest. These quality valves have been in service around the world for 50 years. For best service in your applications, always specify Kerotest.

WRITE TODAY FOR Catalog!

KEROTEST

KEROTEST MANUFACTURING COMPANY
2522 Liberty Avenue, Pittsburgh 22, Pa.
In Canada, Kerotest products are manufactured and distributed exclusively by Guelph Engineering Company, Guelph, Ontario.

▲ For more details circle NED-827 F on enclosed inquiry slip ▲

PAYLOADER®
THE OVERWHELMING CHOICE

10,000 "HA" units More than 10,000 of this Model HA "PAYLOADER" have been sold for industrial uses — more than any other make of rubber-tired tractor-shovel.

The Model HA continues to be one of the most popular tractor-shovels in the complete "PAYLOADER" line. Its reputation for digging power — to scoop up and carry 2,000 lb. loads — ability to maneuver in close quarters with its short turning radius . . . its day-after-day dependability and low cost of operation are some of the reasons for its sustained popularity.

For Maximum Continuous Production *in close quarters, the new Model H-25 "PAYLOADER" is recommended. It has an even shorter turning radius (6-ft.) than the Model HA and more operating capacity (2,500 lbs.), more power, plus full power-shift transmission and power-steer for faster cycling and easy, effortless operation. It is the production champion in its class.*

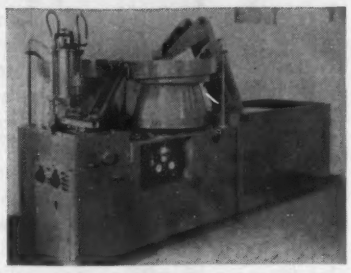
For Any Job of bulk materials handling, indoors or outdoors, there's a "PAYLOADER" size available — up to 12,000 lb. operating capacity. A nearby Hough Distributor, with complete service-parts facilities, is ready to discuss your needs. 6-A-4

HOUGH®

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY — INTERNATIONAL HARVESTER COMPANY

▲ For more details circle NED-828 F on enclosed inquiry slip ▲

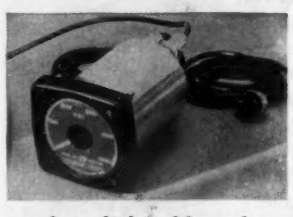
VISCOUS MATERIAL FILLER
injects compound into small parts



Circular apertures in such components as drawn or molded shells with diameters up to 2 in. are filled with viscous compounds by this line of automatic high speed filling machines. Mastics of putty-like consistency are extruded in a continuous band for injection into the small parts. All machine models have variable volume-controlled filling cycles compatible with the material being dispensed. Parts to be filled are automatically fed from bulk hoppers at rates ranging from 300 to 18,000 per hour, depending upon characteristics of the part and the filling substance. • **Swanson-Erie Corp.**, 814 E. Eighth St., Erie, Pa.

▲ For more details circle NED-829 F on enclosed inquiry slip ▲

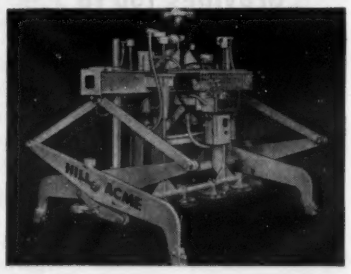
PRESSURE INDICATOR
used with strain gage transducers



Fluid and gas pressures, thrust, torque, and other force measurements are shown on the Model 236 pressure indicator at a point removed from the strain gage transducer. Measurements are indicated on dials calibrated to any standard pressure range up to 10,000 psi. Indicator consists of a voltage regulated power supply for furnishing 60-cps excitation to the direct current meter movement, and a self-contained power supply for the transistor amplifier. It operates on 105 to 125 v, 60 cycles ac and at temperatures from 32 to 110° F. Cable length can be up to ½ mile. Indicator is 5¼ in. square and 5⅝ in. long. • **Taber Instrument Corp.**, 111 Goundry St., North Tonawanda, N. Y.

▲ For more details circle NED-830 F on enclosed inquiry slip ▲

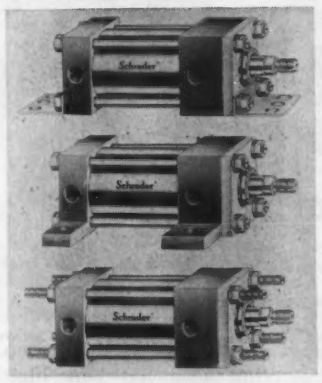
SHEET & BILLET LIFTER
uses vacuum cups or scissors tongs



Made in sizes and capacities to fit load requirements, this combination sheet and billet lifter will handle both ferrous and nonferrous metals with its multiple vacuum cups and scissors tongs. Vacuum lifter has self-contained vacuum system, including motor, pump, and vacuum reservoir. Frame supporting the vacuum cups is actuated by air cylinders controlled by a solenoid valve. Tong action is automatic. Face of material being handled is protected by supporting rollers attached to the tong arms. Illustrated unit has a tong capacity of 8000 lb and a vacuum lift capacity of 1200 lb. • **Hill Acme Co.**, 1201 W. 65th St., Cleveland 2, Ohio.

▲ For more details circle NED-831 F on enclosed inquiry slip ▲

AIR CYLINDERS
new mounts for double-action units

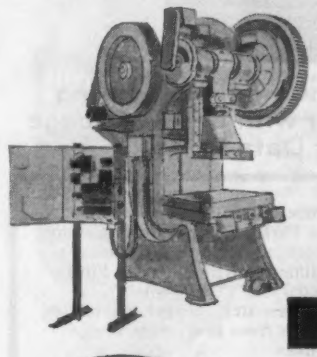


Line of square-end, double-acting air cylinders is now offered with angle bracket, side leg, and extended tie rod mounts in addition to previously available bolt, flush, leg, base, and side mountings. Larger choice of mountings adapts the cylinders for a range of holding, positioning, and moving work under manual or automatic control. Basic cylinder is made in five sizes up to 4-in. bore for air or hydraulic pressures up to 250 and 750 psi, respectively. All models are available with or without adjustable cushions. • **Scovill Mfg. Co., A. Schrader's Son Div.**, 470 Vanderbilt Ave., Brooklyn 38, N. Y.

▲ For more details circle NED-832 F on enclosed inquiry slip ▲

Gain higher speeds- lower maintenance- longer press life!

FEDERAL AIR CLUTCH PRESSES



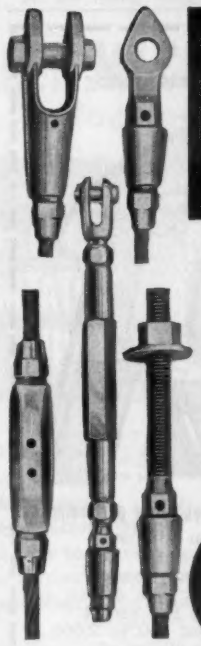
FEATURES:
Fail-safe Control
Dual Solenoid Valve
Air Filter Lubricator Pressure Regulator
Meehanite Castings
Anti Tie-down Push Buttons
Stranded Wire
Solderless Connections
Emergency Stop
Top Stop
Selector Switch
Guarded Foot Switch
Oil-tight Enclosures

FEDERAL
open-back inclinable
PRESSES

MMT-PE

THE FEDERAL PRESS COMPANY
of Elkhart
Dept 806, Elkhart, Indiana

▲ For more details circle NED-833 F on enclosed inquiry slip ▲



A happy ending to those excessive wire-rope costs

Electroline
WIRE ROPE FITTINGS

Tremendous holding strength and a simple design that reduces rope wear at the commonest point of failure, make Electroline Fittings the first choice of veteran wire rope users.

Easy Application—an Electroline fitting goes on in a jiffy; no molten metal, just ordinary tools.

Lasting Grip—they hang on "for keeps".

Rope Lasts Longer—vibration damped, rope fatigue reduced.

Fittings Reusable—when wire rope is "worn out"—use the fittings again and again, indefinitely.

That's the simple story of how to gain substantial savings. Next step—write for the Electroline catalog with full information.

Electroline PRODUCTS
THE SUPERIOR SWITCHBOARD & DEVICES COMPANY
Box 590, Canton 1, Ohio

▲ For more details circle NED-834 F on enclosed inquiry slip ▲

New MB MOTO FLOW FREIGHT CONVEYOR

- INCREASES USEABLE FLOOR SPACE
- EASILY MOVES 2000 LBS.
- HANDLES ASSORTED AND PALLETIZED LOADS
- INSTALL AT ANY ANGLE
- SAVES HOURS OF LABOR

Your profits go up... handling costs down with Moto Flow, a fast, efficient, and safe system for floor-to-floor material handling both inside and outdoors.

Easily turns a limited use upper floor or basement into a productive, fully useful area. Send for complete details today.

M-B CORPORATION
New Holstein, Wisconsin
QUALITY EQUIPMENT SINCE 1907

▲ For more details circle NED-835 F on enclosed inquiry slip ▲

Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

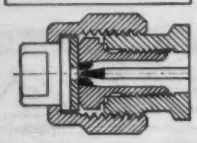
▲ For more details circle NED-836 F on enclosed inquiry slip ▲

for AIRLESS paint spraying and coating

with
TUNGSTEN CARBIDE valve seat and needle
•
STAINLESS STEEL body and cap
•
TEFLON packings

for efficient, trouble-free performance

Here's the gun designed in detail for better, trouble-free performance. Needle cleans seat orifice automatically. For use at pressures from 400 to 2,000 psi. Complete choice of interchangeable orifice tips in all spray patterns, capacities and materials.



SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

FOR INFORMATION WRITE FOR BULLETIN 95

▲ For more details circle NED-837 F on enclosed inquiry slip ▲

New low cost VERSATILITY! TWO LIFTS IN ONE!

"Weld-Bilt" PRODUCTS

HINGED VERTI-LIFT Model "90" HY-BOY

- Take it through Doorways
- Move it onto Elevators
- Folded — Lifts 55" from floor
- Extended — Lifts 90" from floor

OFFERS TWO LIFTING RANGES IN ONE UNIT: To lift or stack up to 90", simply swing up the hinged extension; it automatically locks into place. For moving through doors or under any low clearance, just trip the catch lever and fold down the tower extension. For up to 55" lift from floor no need to raise extension.

Special stops prevent over-travel at either height.

FEATURES. • Powered by 12-volt heavy-duty battery • Built-in safety valve, recharger, ammeter and indicator light • Unitized Electro-Hydraulic Pump, and Heavy-Duty, Chrome-plated Ram • 1500 Pound Capacity at 13" load center • Push Button Controls • Special Accessories for Special Tasks

NOW . . . Get your copy of new CM558 HY-BOY Catalog!

WEST BEND EQUIPMENT CORP.
Materials Handling Engineers
311 Water Street • West Bend, Wisconsin

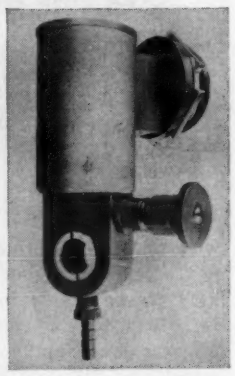
▲ For more details circle NED-838 F on enclosed inquiry slip ▲

SHATTERPROOF LIGHT BULB
withstands heat, cold, and acids

High brilliance, high lumen output Flamescent shatterproof electric light bulb is reinforced with a Fiberglas yarn winding of high luminous transmittance and a silicone adhesive that makes the bulb impervious to thermal shock. New shape has a cooling crown that lowers the filament operating temperature to eliminate brittleness. Bulb can be used in drop cords on watery surfaces, will resist welding sparks and slag, is impervious to acids, and can be used for tank inspection. Photo shows Flamescent bulb (left) and ordinary bulb (right) at moment of impact after being dropped from a 5-ft height. • Duro-Test Corp., 2400 Hudson Blvd., North Bergen, N. J.

▲ For more details circle NED-839 F on enclosed inquiry slip ▲

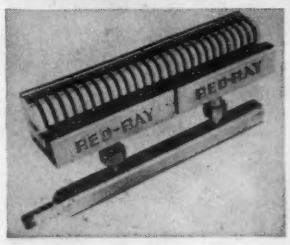
METERING FEEDER
gravity type attaches to drum



Built-in head loss equalizer of the gravity metering Pour-Portioner gives constant, same-rate flow from full or near-empty drums. The polyvinyl chloride and Teflon unit screws directly into the 2-in. threaded fittings of all standard chemical shipping drums. It sight-meters through a range of 1 drop per minute to 10 gph, and is suited to suction side (vacuum) or open vessel feeding. Change-over from drum to drum is made without tools or without altering feed rate. Acids, air conditioning chemicals, aromatics, chlorine, dyes, detergents, plating solutions, and process chemicals are among products which can be metered. • Sterling E. Norcross Co., 19 Osborne St., Bloomfield, N. J.

▲ For more details circle NED-840 F on enclosed inquiry slip ▲

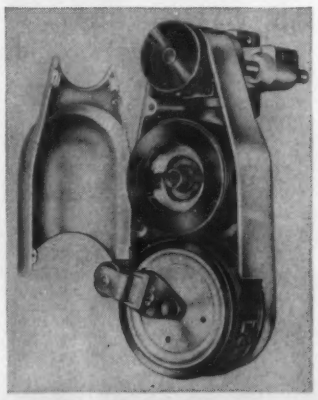
INFRARED GAS BURNER
provides 150 to 3000 Btu per inch



Ovens, conveyors, rotary drums, and roll dryers are applications for the high radiation Type H infrared gas burner. It provides from 150 to 3000 Btu per linear inch, depending upon the gas-air mixture. Combustion takes place within the fluted refractory which heats to 2600° F when operated in the open. The flame is stable under high velocity circulation. Burner is offered in an alloy for elevated temperature use and in cast iron for open use. Lengths from 7 in. to 100 ft or more can be produced. • Red-Ray Mfg. Co., 318 Cliff Lane, Cliffside Park, N. J.

▲ For more details circle NED-841 F on enclosed inquiry slip ▲

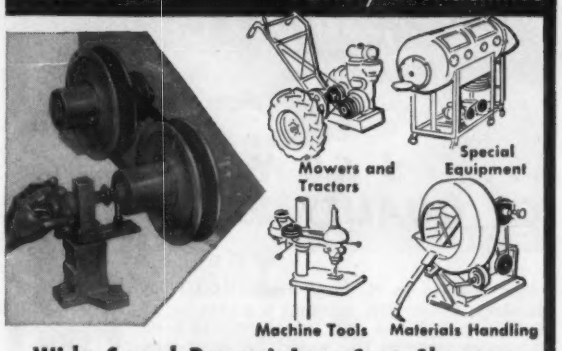
MARKING & CODING MACHINE
for packages, cartons, and bags



Use of a Porelon microporous plastic inking cylinder on the friction driven Teko marking and coding machine enables it to be used in any position to print on all types of porous packages, cartons, bags, and shipping containers. Each inking cylinder delivers up to 125,000 marking impressions. It will not gum up, is easily cleaned with a damp cloth, and can be replaced in less than ½ min when exhausted. Model 601 printing head has 1-in. high letters and 15-in. circumference and prints in one color only. Model 603 with a 15-in. circumference has a 3-in. wide printing surface and prints up to three colors at one time. Type is replaceable and changeable. • Thomas Engineering Co., 9257 N. Laramie Ave., Skokie, Ill.

▲ For more details circle NED-842 F on enclosed inquiry slip ▲

SPEED SELECTOR
VARIABLE PITCH SHEAVES
Control Speeds on Variety of Machines



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Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

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SPEED SELECTOR INC.
P.O. BOX 312-N • CHAGRIN FALLS, OHIO

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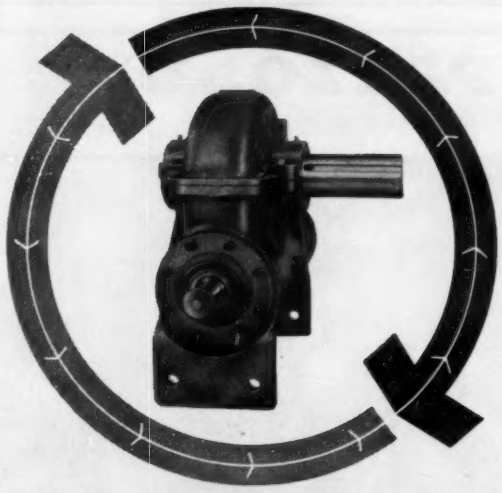


TULSA SPEED REDUCERS
• Low Cost • Compact • Heavy Duty • Worm Gear

Economize on speed reduction costs with Tulsa Speed Reducers. For intermittent heavy duty operation at slow speeds, you can't beat Tulsa Speed Reducers for initial low cost, minimum maintenance and outstanding performance. A wide range of models is available with maximum output torques ranging from 875 to 26,000 pound-feet. Some models available with automatic worm brake. For complete information write for Bulletin No. SR-56.

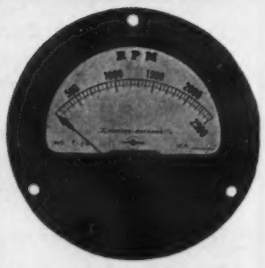
TULSA WINCH
DIVISION OF VICKERS, INCORPORATED
TULSA, OKLAHOMA

▲ For more details circle NED-844 F on enclosed inquiry slip ▲

MOUNTED TACHOMETERS

NO WEARING PARTS

Indicator can be located up to 300' from sender



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MACHINE TOOLS
OIL WELL EQUIPMENT
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The ELECTRO-MECHANO CO.
261-1 E. Erie St. Milwaukee 2, Wis.

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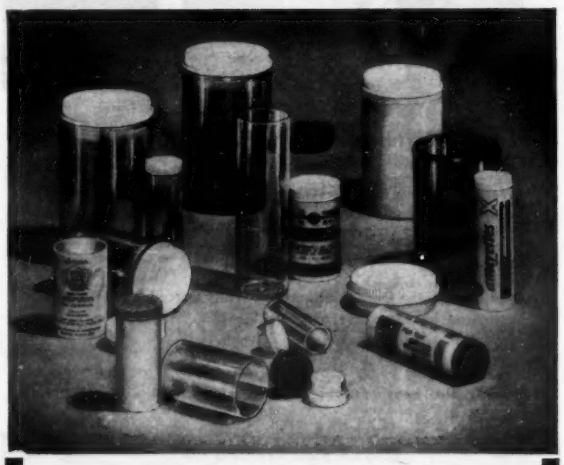
For more details circle NED-846 F on enclosed inquiry slip

LERMER PLASTIC CONTAINERS



Exceptional printing makes the difference...

Helps make the sale!

- Printed or decorated up to 4 colors on crystal clear, transparent or opaque colors
- Largest line of RIGID plastic containers
- 1/5 the weight of glass—greatly reducing ever-increasing shipping and handling costs
- Lightweight and shatterproof—with rigid wall protection
- Economical—with customer re-use value
- Also made of new high density polyethylene—Poly-Opal*. Are chemically inert, stain resistant and have lower permeability to moisture and gases than conventional polyethylene.

*T. M.

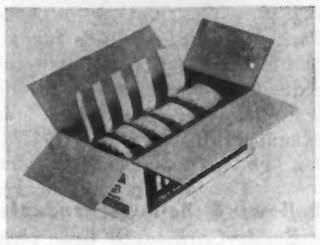
Write for full-color catalog, samples and prices.

LERMER PLASTICS, INC.
514 South Avenue
Garwood, New Jersey
PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

For more details circle NED-847 F on enclosed inquiry slip

New Processes and Materials

NYLON SLIDING TAPE
self-adheres to any dry surface



Trial industrial pack of Nyl-O-Tape self-adhering solid nylon sliding tape will enable engineers and designers to test applications for this material. This low-friction material adheres to metal, wood, plastic, and other dry surfaces by merely removing its protective backing and pressing it in place. It can be used on worktables to permit easy sliding of parts, on guard rails of conveyors to minimize wear, and almost any place where an easy-sliding wear-resistant area is needed. Trial kit contains 6-ft lengths of 1/4, 3/8, 1/2, 3/4, and 1-in. widths to enable user to determine most suitable width. Kit lists for $6.25. Standard 100-ft coils are available for industrial use. • **Hardware Designers, Inc.**, 48 Moonachie Rd., South Hackensack, N. J.

For more details circle NED-848 F on enclosed inquiry slip

PLASTIC COATING
liquid is also sealing compound

Spot welded ash cans, metal boxes, wastepaper baskets, and other metal containers can be made watertight and leakproof by use of Rubba-seal liquid plastics. The transparent coating and sealing compound adheres well to metal, wood, fabric, cork, leather, and other surfaces. It is applied by brush, spray, or flow gun to the container seam. The acid and alkali resistant product is available in 1, 5, and 55-gal quantities. • **Rubba, Inc.**, 1015 E. 173rd St., New York 60, N. Y.

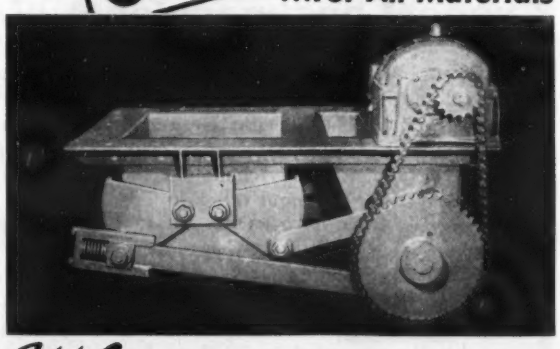
For more details circle NED-849 F on enclosed inquiry slip

DRAIN PIPE OPENER
now offered in liquid form

Bingo drain pipe opener in liquid form is conveniently packaged in a reusable plastic bottle. The compound quickly dislodges slime, grease, hair, and other troublesome accumulations from pipes and plumbing fixtures. It will not harm glass, metal, or porcelain when used as directed. • **Huntington Laboratories Inc.**, Huntington, Ind.

For more details circle NED-850 F on enclosed inquiry slip

Bin GATES! All Types All Sizes ...For All Materials



Webster DUPLEX Gate

Motor-operated, this positive-acting gate can be supplied with remote control. Regularly made of steel, the Webster DUPLEX Gate can also be furnished with cast iron housing and gate leaves—or cast side gate leaf panels with renewable steel gate bottom plates.
Webster also manufactures a complete line of Drip and Sift Proof Gates; Dust Proof Rack and Pinion Gates; Simplex, Undercut and Slide Gates; and Rotary Cutoff Valves for all industries.
Write us—outlining your requirements.

Webster MANUFACTURING, INC.
DEPT. NE-60 TIFFIN, OHIO
BULK MATERIALS HANDLING EQUIPMENT
Offices in all Principal Cities
SINCE 1876

For more details circle NED-851 F on enclosed inquiry slip

Here's ready-made **FIRST AID FOR SLIPPERY FLOORS!**

AUTO-DRI®... is an economical prescription against accidents. Your broom brigade easily spreads this carpet-of-safety on with rake or broom. . .the thirsty granules instantly soak up oil, grease, liquids . . . pull deep deposits out of floor. Leave AUTO-DRI on, or remove and reuse until saturated. AUTO-DRI is mineral . . . won't burn. Costs only a fraction of a cent per sq. ft. of protection!

Write for generous FREE SAMPLE

SPEEDI-DRI DIVISION
Minerals & Chemicals Corporation of America
297 ESSEX TURNPIKE MENLO PARK, NEW JERSEY

For more details circle NED-852 F on enclosed inquiry slip

KEEP MACHINES RUNNING
...reduce maintenance costs,

with DEUBLIN ROTATING UNIONS

3/4" Size Union Illustrated

for water, steam and air service!
Here is a compact, efficient rotating union—

- ★ LEAKPROOF
- ★ CORROSION PROOF
- ★ EASY TO SERVICE
- ★ VIRTUALLY FRICTIONLESS
- ★ PRECISION BUILT FOR LONGER LIFE
- ★ INTERCHANGEABLE with any other rotating union
- ★ VERSATILE—For Monoflow or Duoflow operation, available in 1/2", 3/4", 1", 1 1/4" and 1 1/2" sizes
- ★ MINIMUM TORQUE makes it ideal for high speed applications

See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

104 *Write today for full details and prices.*

DEUBLIN COMPANY
1925 STANLEY ST., NORTHBROOK, ILL.

For more details circle NED-853 F on enclosed inquiry slip

DRUM CAM

Cams and Camshafts

precision milled or ground

by the world's leading CAM manufacturer

LANDING GEAR CAM

PUMP CAM

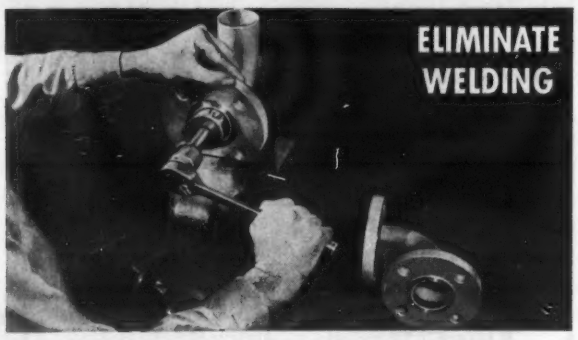
Eonic is regularly supplying Landing Gear, Drum, Pump, Face, Cylindrical two and three dimensional Cams to manufacturers throughout the world.

Design Analysis and Engineering Services Available.

EONIC *Inc.* Engineers of Precision

Write for catalog and additional information

For more details circle NED-854 F on enclosed inquiry slip



Speedline® FLANGES

SIMPLIFY PROCESS PIPING ASSEMBLY

- Expander and wrench *only tools necessary*
- Expanding feature assures leakproof joints
- No heat-affected zone
- Easier . . . faster than welding

Speedline's *complete line* of long tangent fittings simplifies pipe-connection problems—reduces assembly time, cuts costs. A Distributor near you stocks Speedline fittings—ask him for more information about the "extra length" feature, or write for a Speedline catalog.

1002

Speedline CORROSION-RESISTANT FITTINGS
Stainless Steel • Aluminum • Special Alloys

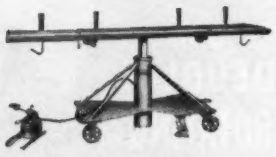
Mfg. by HORACE T. POTTS COMPANY • 532 E. Erie Avenue • Philadelphia 34, Pa.

▲ For more details circle NED-855 F on enclosed inquiry slip ▲

RAYMOND® COST CUTTERS

Portable HYDRAULIC elevating table

For die handling, feeding, positioning. Telescopic and non-telescopic models. Cap. 2,000 lbs.



HYDRAULIC sheet feeding table

Keeps sheets, strips at right working level. Increases production, makes jobs safer, easier. Cap. 2,000 lbs.

RAYMOND

Lightweight HYDRAULIC pallet truck

Rugged, maneuverable. 270° turning radius. Separate lift and lower foot pedals. Cap. 2,000 and 3,000 lbs.

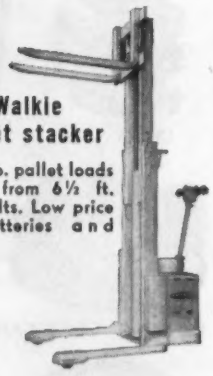
Walkie pallet truck

24 volt power. Three speeds forward or reverse. Low price includes batteries and charger. Cap. 4,000 lbs.

RAYMOND

Walkie platform truck

Operates in narrow aisles and crowded production areas. 24 volts. Low price includes batteries and charger. Cap. 4,000 lbs.



Walkie pallet stacker

Tiers 2,000 lb. pallet loads 10 ft. high from 6½ ft. aisles. 24 volts. Low price includes batteries and charger.

The RAYMOND CORPORATION

4189 Madison St., Greene, N. Y.

SEND FOR FREE BULLETINS

Please send bulletins:

☐ Portable Elevating Table ☐ Walkie Pallet Truck
☐ Sheet Feeding Table ☐ Walkie Pallet Stacker
☐ Lightweight Pallet Truck ☐ Walkie Platform Truck

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-856 F on enclosed inquiry slip ▲

New Literature and Catalogs

Magnetic Drives

Gleason Reel Corp., Tormag Products Div.—Operating principles and performance characteristics of the improved Tormag permanent magnet drive are explained in Catalog TP-160. Included are typical cost-reducing applications and solutions to many drive problems involving high inertia starts, excessive loads, and extended full stall.

▲ For more details circle NED-857 F on enclosed inquiry slip ▲

Bellows & Bellows Products

Breeze Corp.—The basic physics as well as suggested applications for welded diaphragm bellows are described with words, pictures, and drawings in 16-page "Design Guide." Flexible, expansion, and pressure types of bellows are discussed. Also covered are the differences between formed and welded bellows and the place of each in equipment design.

▲ For more details circle NED-858 F on enclosed inquiry slip ▲

Mechanized Bulk Storage Systems

A. O. Smith Corp., Harvestore Products Div.—Permaglas bulk storage structures have glass-fused-to-steel construction inside and out. They are served by a mechanical sweep-arm bottom unloader which makes possible completely automatic systems for storing and conveying bulk materials into process. Tanks range from 14 to 20 ft in diameter and 10 to 50 ft high. Full information is given in 16-page Bulletin MU-107.

▲ For more details circle NED-859 F on enclosed inquiry slip ▲

Concrete Bonds for Repair & Maintenance

International Epoxy Corp. — 32-page handbook of "Application Methods" explains how and where to use E-Bond Thiokol LP/Epoxy concrete adhesive for bonding. Procedures for repair and maintenance of structures, roadways, walks, floors, and in industrial plants are shown.

▲ For more details circle NED-860 F on enclosed inquiry slip ▲

How Optical Comparators Work

Jones & Lamson Machine Co.—"J & L Optical Comparators—What they are . . . and . . . What they do" is title of 24-page booklet which clearly shows how optical comparators operate. The kinds of measurements that can be made directly, types of inspection which can be performed, and cost-saving features of J & L Comparators are covered.

▲ For more details circle NED-861 F on enclosed inquiry slip ▲

Steel Sheeting Lines

F. J. Littell Machine Co., Automation Div.—What makes a Littell high speed sheeting line tick is told in 12-page Bulletin G-10. This equipment produces sheet stock from 0.0055 to 0.020 in. thick at speeds up to seventy-five 3-ft blanks per minute. Shown is a sheeting line composed of a 10-ton spindle reel, straightener, electronic inspection unit, roll feed and cutoff machine, and an automatic prime and reject stacker. Equipment produces flat sheets from coil stock.

▲ For more details circle NED-862 F on enclosed inquiry slip ▲

Trap Strainers

Multi-Metal Wire Cloth Co.—Bulletin 601 contains 8 pages of information on individualized trap strainers which are engineered to specific requirements. Case histories show solutions to strainer problems involving carbonated beverages, heavy chemicals, adhesives, plastic resins, vegetable oils, and other fluids.

▲ For more details circle NED-863 F on enclosed inquiry slip ▲

Solid State Electronics

Cook Electric Co., Diaplex Div.—State-of-the-art advancements of new electronic systems and components are graphically presented in 30-sheet brochure "Solid State Conversions." Covered are voltage level sensing systems, static inverters, power supplies, ice detection systems, solid state components, and miscellaneous systems.

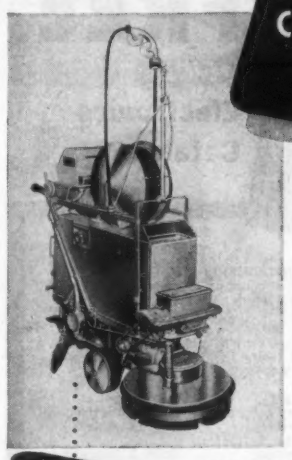
▲ For more details circle NED-864 F on enclosed inquiry slip ▲

Limit Switches for Industry

National Acme Co., Electrical Controls Div.—16-page Bulletin EC-SL260 tells how the new SL-2 Snap-Lock limit switch works, where it can be used advantageously, and modifications which adapt it for many needs. Rotary action and maintained contact models are described in detail. Contacts are rated 20 amp ac and 5 amp dc at 125 v.

▲ For more details circle NED-865 F on enclosed inquiry slip ▲

Self-Propelled SCRUBBER-VAC.... .... CUTS CLEANING TIME 2/3!



For Small-Area Buildings (2,000 to 15,000 sq. ft. of floor)

Finnell's 418P Electric Combination Scrubber-Vac, with its 18" brush spread, cleans floors in about *one-third the time* required with a conventional 18" machine and separate vac. Also can be used for polishing, etc. Available on lease or purchase plan. (Powder Dispenser is an accessory.)

Applies cleanser, scrubs, and picks up in ONE operation!

FIND OUT WHAT YOU WOULD SAVE . . . with a *Finnell Scrubber-Vac*. *Finnell* makes a full range of sizes, and *battery, gasoline*, and *propane* as well as *electric* models. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5506 East Street, Elkhart, Indiana.

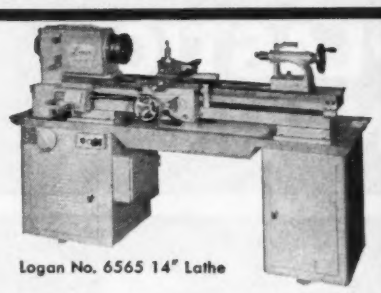
FINNELL SYSTEM, INC. Originators of Power Scrubbing and Polishing Machines FINNELL BRANCHES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-866 F on enclosed inquiry slip ▲

its specifications add up to high production capacity

Logan 14" Lathe

- Spindle speeds to 2000 rpm.
- 1½" Levermatic collet chuck capacity
- 14⅝" swing over bed
- 9" swing over saddle cross slide
- 40" between centers



Logan No. 6565 14" Lathe

Logan's generous combination of high-quality features means greater reliability, accuracy, and longer life.

- Oversize spindle—1⅝" bore—four super-precision ball bearings—built-in preload
- Variable-speed drive—change speed with work turning—without shifting belts
- Warp-free lathe bed—high, strong walls braced by oversize ribs withstand heaviest stresses; two V-ways, two flat ways flame-hardened, precision-ground

These and many more reasons prove Logan's greater working capacity. The specifications tell the story. Write for complete information.

LOGAN ENGINEERING CO.
Dept. Q-660, 4901 Lawrence Ave., Chicago 30, Ill.

▲ For more details circle NED-867 F on enclosed inquiry slip ▲

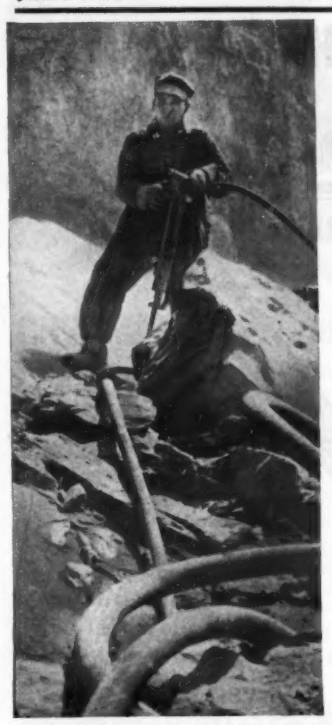
BOXES AND BASKETS

These economical steel containers are designed to carry parts on pallets, belts or overhead conveyors through all your production and assembly operations. They eliminate time-consuming transferals, even for degreasing. Stacked alongside of workers or hung in hopper racks, they provide ample supplies of parts in easy reach. Empty, they nest neatly out of the way. Nestier Boxes and Baskets are available in five convenient sizes, 12" to 36" in length. Write for information today. Dept. D-6

NESTIER FIRST IN SMALL PARTS HANDLING

NESTIER CORPORATION Subsidiary of THE METAL SPECIALTY CO.
4519 Este Ave., Cincinnati 32, Ohio

▲ For more details circle NED-868 F on enclosed inquiry slip ▲



HOMOFLEX AIR HOSE

"FLEXIBLE AS A ROPE"

- STRONG
- LIGHT
- KINKLESS

More flexible and lighter than any other hose for equal pressure. Lasts longer, precision built, uniform diameter, lower end cost. Made also in extra-heavy type for mining.

Write for Catalog M610.

RM 1014

Engineered Rubber Products . . More Use Per Dollar

RAYBESTOS-MANHATTAN, INC.

MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

▲ For more details circle NED-869 F on enclosed inquiry slip ▲

QUALITY RINGS TRUE

There can be no sacrifice of quality when you specify snap, bearing, lock or retainer rings for your products. They literally hold products together — assuming a large, but hidden, proportion of the responsibility for customer satisfaction. From the cold drawing of the steel through forming, heat treating and finishing, Eaton-Reliance rings will hold your exact specifications and assure satisfaction for both you and your customers. Write for details.

EATON RELIANCE DIVISION MANUFACTURING COMPANY 509 CHARLES AVENUE • MASSILLON, OHIO

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

▲ For more details circle NED-870 F on enclosed inquiry slip ▲

New Processes & Materials

SELF-ADHESIVE PLASTIC FOAM in sheets 1/8 to 4 in. thick

Cushioning, padding, and packaging are typical uses for Mactac self-adhesive polyurethane foam sheet, offered in graduated sizes from 1/8 to 4 in. thick. Foam will bond to either porous or smooth surfaces and has 30 per cent stretch in length and 5 per cent in width. Adhesive backing is protected by an easy release paper, and the final bond resists deterioration by water, greases, heat, and oxidation. • **Morgan Adhesives Co.**, Dept. I-55, Stow, Ohio.

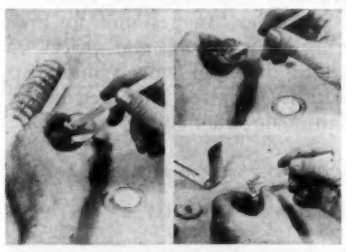
▲ For more details circle NED-872 F on enclosed inquiry slip ▲

VACUUM MELTED ALLOYS for high strength brazing work

Applications for vacuum melted brazing alloys, now commercially available, include brazing of Type 321, 347, and other stainless steels as well as such super alloys as Rene 41. One type, the Wide Gap Series, will bridge joint clearances up to 1/16 in. Other types are General Purpose alloys for general high temperature brazing, and Honeycomb alloys for brazing metal honeycomb assemblies containing 0.001 to 0.005-in. core materials. Vacuum melting produces a clean alloy, free from inclusions and impurities. • **General Electric Co.**, Metallurgical Products Dept., Box 237, Roosevelt Park Annex, Detroit 32, Mich.

▲ For more details circle NED-873 F on enclosed inquiry slip ▲

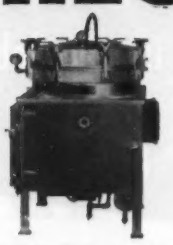
EPOXY ADHESIVE packed for small quantity usage



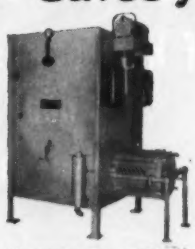
Two-part epoxy adhesives used to bond electronic components to circuit boards are now offered in tiny packages for mixing and using in small quantities without waste. The PA Packettes are small plastic containers, each holding a premetered quantity of both adhesive and catalyst. They act as both mixing and dispensing containers which are thrown away after use. In photo, the contrasting colored adhesive and catalyst are mixed to a uniform color and applied, in this case, to screw threads to lock them together. Agents offered in Packettes are PA-708 metal-to-metal adhesive, PA-815 for glass-to-ceramic bonding, and PA-746 for treating Teflon. Case of ten PA-708 Packettes costs $1.50. • **Plastic Associates**, 2900 S. Coast Blvd., Laguna Beach, Calif.

▲ For more details circle NED-874 F on enclosed inquiry slip ▲

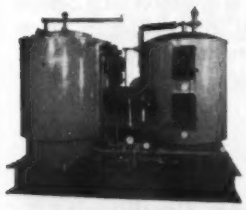
HILCO Oil Purification Equipment Saves your Oil, Machinery and Money



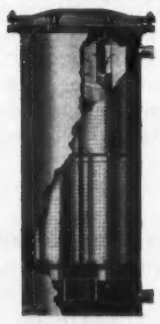
OIL RECLAIMER



PURIFIER-RE-REFINER



HIGH CAPACITY RECLAIMER



FILTER

One of these HILCO units will take care of your oil filtering or purification needs. Write to HILLIARD stating your problem and we will make a recommendation. A field representative will call if you prefer.

The complete line of equipment for reclaiming, filtering, purifying and re-refining oil . . . HILCO

Recover large quantities of oil at low cost, keep your equipment in top condition with clean oil, reduce maintenance costs and increase production. The Hilliard catalog will show you oil maintenance equipment for your specific application along with complete descriptive and engineering data. Write today!

There is a HILCO to take care of YOUR OIL PURIFICATION PROBLEM

Write for this FREE Catalog . . .

Recommendations at no obligation

The HILLIARD Corporation 31 W. Fourth St. Elmira, N.Y.

IN CANADA: UPTON-BRADEEN • JAMES, LTD. • 890 YONGE ST., TORONTO • 8760 VERVILLE ST., MONTREAL

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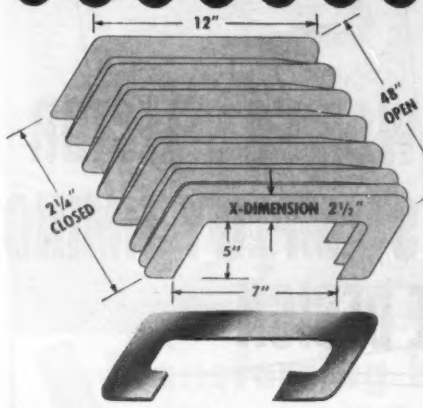
PROTECTED WAYS



With aluminum stiffeners as required

NOTE: 2½ dim. determined the small, 2¼" close. Variations in "X" govern closed lgth.

GORTITE, new, pliable way-protectors for . . . milling machines, grinders, boring bars and other machine tools are fabricated to order from fiberglas and new neoprene-base materials. Ask for new bulletin GW-100. A&A MFG. COMPANY INC., 712 S. 12th St., Milwaukee 4 Wis.

BOOTS . . . SLEEVES . . . WAY-PROTECTORS

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Cuts Operating Costs. You'll save money in every department with the speed and simplicity of "Thermo-Fax" Copying Machines. Accounting procedures are simplified. Reports, sketches, instructions are copied quickly and economically. Correspondence costs go down. In just 4 seconds these all-electric machines copy directly from an original—with the clean, dry copy on white, bond-weight paper or on any of 6 colors. To see all that perfectly dry copying can do, call your local dealer. Or mail the coupon for complete information.

THERMO-FAX COPYING MACHINES

Thermo-Fax COPYING PRODUCTS 3M COMPANY

"Machines that mean business"

THE TERM "THERMO-FAX" IS A REGISTERED TRADEMARK OF MINNESOTA MINING AND MANUFACTURING COMPANY

MINNESOTA MINING AND MANUFACTURING COMPANY

. . . WHERE RESEARCH IS THE KEY TO TOMORROW . . .

Minnesota Mining and Manufacturing Company
Dept. DBQ-60, St. Paul 6, Minnesota
Please show me, at no obligation, how dry copying with "Thermo-Fax" Copying Machines can simplify paperwork at low cost.

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Company_____
Address_____
City_____ Zone____ State_____

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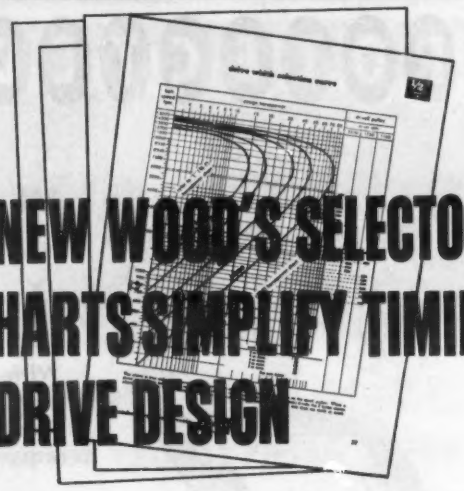

NEW WOOD'S SELECTOR CHARTS SIMPLIFY TIMING DRIVE DESIGN

Wood's exclusive new Timing Belt Drive Selector Charts enable you to choose the *right* drive with almost no calculations. Five easy-to-understand charts cover all belts from "extra light" to "double extra heavy." For your free set . . .

write for Bulletin 21103.

T. B. WOOD'S SONS COMPANY

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FOR THE SYSTEMS OF THE SIXTIES

CONVEYORS THAT COST LESS TO INSTALL

NEW Series E Belt Conveyors are pre-engineered with standard components so you can save money by installing them yourself. These components are *also interchangeable* with those in other Unibilt® conveyors further simplifying system installation.

Exploded photo of UNIBILT® Series E Belt Conveyor

CONVEYORS THAT COST LESS TO OPERATE AND MAINTAIN

NEW Series EP Live Roll Conveyors feature automatically adjusted belt tension, eliminating the need for manual adjustment and conserving power. Unibilt assembly can easily be altered when handling requirements change.

UNIBILT® Series EP Live Roll Conveyor

UNIBILT® Conveyor System

Write for Unibilt Bulletin

CONVEYOR SPECIALTY CO.

INCORPORATED

Distributors in Principal Cities

37 Newport Avenue, North Quincy, Mass.

▲ For more details circle NED-878 F on enclosed inquiry slip ▲

New Literature & Catalogs

Pocket Marking-Scribing Tools

Spring Specialty Co.—Covered in 1-page data sheet are full details on scribing tools which use fixed and replaceable high speed steel and carbide points and clip into pocket. Also described are pocket magnet tools for holding or retrieving small parts or removing chips from blind holes. Prices are given.

▲ For more details circle NED-879 F on enclosed inquiry slip ▲

Forgings & How They Are Made

Union Forging Co.—16-page color-illustrated brochure outlines diversified design, engineering, and manufacturing facilities available for the production, machining, coining, and finishing of ferrous forgings for all industries. Case histories, production techniques, and cost-cutting shortcuts are detailed.

▲ For more details circle NED-880 F on enclosed inquiry slip ▲

Digital Instruments

Non-Linear Systems, Inc.—20-page Bulletin 20-1 is descriptive of Series 20 digital instruments which include volt, ratio, and ohm meters. Wiring diagrams and performance data simplify selection and application. Types are available for remote control. They feature transistorized modular construction.

▲ For more details circle NED-881 F on enclosed inquiry slip ▲

Tube Fittings for Every Need

Lenz Co.—118-page illustrated catalog presents full information on a line of original equipment and replacement tube fittings. Featured are Lenz O-ring seal fittings. Where and how to use various types of fittings and tube accessories are explained.

▲ For more details circle NED-882 F on enclosed inquiry slip ▲

Diamond Wheel Data

Raybestos-Manhattan, Inc., Manhattan Rubber Div. —Detailed data on available grit sizes and diamond concentrations, wheel markings, suggestions to prolong wheel life, ordering information, and prices of resinoid and metal bonded diamond wheels make up contents of Catalog M1501. It gives guidance in selecting natural or man-made diamonds for specific services.

▲ For more details circle NED-883 F on enclosed inquiry slip ▲

Collapsible Taps

Landis Machine Co.—8-page Bulletin G-94-2 covers design and application of line of collapsible taps for parallel threads or short lengths of tapered threads in diameters from $1\frac{1}{4}$ to $13\frac{1}{4}$ in. Convertible stationary and rotary models are available.

▲ For more details circle NED-884 F on enclosed inquiry slip ▲

Scaffolds for Production & Maintenance

Patent Scaffolding Co.—On-the-job pictures are used to illustrate 8-page Bulletin AS-10 on a complete line of aluminum scaffolds which are available from one source. Ladder, sectional, and folding type scaffolds are described.

▲ For more details circle NED-885 F on enclosed inquiry slip ▲

Instruments for the Process Industries

American Machine & Metals, Inc., U. S. Gauge Div. —Pneumatic instruments, including pressure and temperature pilots and transmitters, are subject of 12-page illustrated Catalog 515. Detailed information is given on bourdon tube, helical movement, diaphragm, and bellows pressure measuring elements and on mercury vapor, gas, and organic liquid actuated temperature measuring elements.

▲ For more details circle NED-886 F on enclosed inquiry slip ▲

The Economics of Industrial Air Conditioning

Carrier Corp.—How to determine whether factory air conditioning will be a profitable investment is explained simply in 16-page Booklet AC495. Four key check-figures with which plant men can qualify their operation are presented. Answers to any two of these figures indicate that air conditioning will pay for itself and also return a profit.

▲ For more details circle NED-887 F on enclosed inquiry slip ▲

Lab & Testing Instruments

Leeds & Northrup Co.—Specifications, application information, and prices of six different portable potentiometers, two dc galvanometers, an ac and dc null detector, a guarded Wheatstone bridge facility, a students' potentiometer, a universal ratio set, and two electrolytic conductivity indicators are provided in 16-page Folder E(6).

▲ For more details circle NED-888 F on enclosed inquiry slip ▲

MEET MR. HAND-SAVER

Snap-on

OPEN-END WRENCH with new comfort-grip handle

- Knuckle-saving strength
- Lightweight
- Slim heads
- Tapered jaws
- Balanced design
- 15° offset head
- Fine alloy steel
- 11 wrenches, ¼" to 1" in kit bag. Set VSO-811-K

FOR ALL INDUSTRY

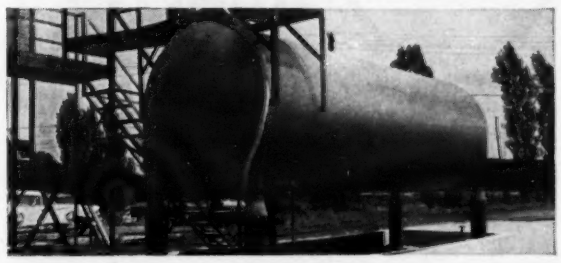
SNAP-ON TOOLS

8110-F 28TH AVENUE · KENOSHA, WISCONSIN

▲ For more details circle NED-889 F on enclosed inquiry slip ▲

GLASTEEL TANKS

solve problems of storing sticky, corrosive, or ultra-pure fluids



If your product is sticky, Glasteel (glass inside, steel outside) helps solve the cleaning problem. Very little adheres to the smooth, hard, non-porous surface of a Pfaudler® Glasteel tank.

With most corrosives, Glasteel ends the need for frequent tank replacement. Store all acids (except HF) and most alkalies with confidence.

If your product is *ultra pure*, it will not pick up impurities from Glasteel. Glass is inert. Glasteel protects purity, flavor, color and aroma.

And Glasteel storage is a *money-saver*. In sizes over 10,000 gallons, these tanks cost less than stainless steel. With corrosives, any size tank saves you money because of the long service life.

BULLETIN 975 provides details. Free. Write to our Pfaudler Division, NED-60, Rochester 3, N. Y.

PFAUDLER PERMUTIT INC.

Specialists in FLUIDICS . . . the science of fluid processes

▲ For more details circle NED-890 F on enclosed inquiry slip ▲

FREE!

If heat processing is your job— don't miss this "idea-packed" booklet

Never before have so many sound basic ideas on heat processing been available under one cover.

Written by engineering experts at Michigan Oven Company, it offers practical suggestions on what to look for in an oven regardless of your application.

Why not send for "The Handbook of Oven Facts"? It may be the most important decision you make today! Or, if you have a specific application, a MOCO representative will be pleased to call.

MICHIGAN OVEN COMPANY

419 Brainard, Detroit 1, Michigan

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CHROMALOX ELECTRIC STRIP HEATERS

Quick, low-cost solution to production heating problems

For heating tanks, kettles, pipes, platens, dies, ovens . . . just about anything. Chromalox Electric Strip Heaters provide uniform heat to exact temperatures.

Available in shapes, sizes and wattages to fit hundreds of industrial heating needs . . . including yours. Installation is quick and easy . . . using standard bolts or clamps. Heaters give long service, with little or no maintenance. Temperatures are maintained by manual or automatic controls.

For more information and prices . . . call your Chromalox Sales-Engineering Representative, or write for Bulletin PA 100.

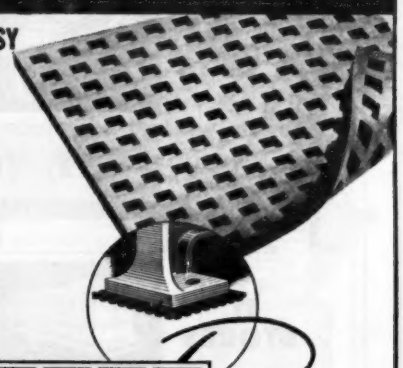
CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

For more details circle NED-892 F on enclosed inquiry slip

NEW REVOLUTIONARY DESIGN FOR LOW COST MACHINE MOUNTINGS

THE NEW EASY BETTER WAY TO INSTALL MACHINERY

Scientifically constructed suction cells anchor machine to floor. No bolts, lag screws or cement needed.



FABCEL Pads
Patent Applied For

Write for new catalog

- Control Vibration
- Absorb Impact
- Reduce Noise

FABREEKA PRODUCTS COMPANY, INC.
1190 Adams Street, Boston 24, Mass.
Representatives in principal cities
In Canada: International Equip. Co., Ltd.
Royal Bank Bldg., Montreal

made by the makers of Fabreeka

For more details circle NED-893 F on enclosed inquiry slip

CUT SET UP TIME, TOOL INVENTORIES

with Brookfield Tool Holders*

Simple Things Pay Off! The simpler they are, the better they work. What could be simpler than a precision ground V-jaw vise for a tool holder? If you had thought of it first (and we don't know why you didn't) you'd be selling them by the thousands, just as Brookfield now is.

It's so simple, it's perfect. Just slip the tool into the V-jaw, tighten, and you're off and running with perfect alignment. No time-consuming setup adjustments. No costly bushings or collets to stock or make. Brookfields hold drills, reamers or cutters of any size within the range of any model. A new, colorful, information-packed brochure tells the whole story. It's yours free for the asking!

Write, wire, phone *Patent No. 2472040

BROOKFIELD, INCORPORATED
STOUGHTON 114, MASSACHUSETTS

West Coast Stocking Distributor: Jones Industrial Sales, 910 Genevo St., Glendale 7, Cal., Phone Citrus 1-3206

For more details circle NED-894 F on enclosed inquiry slip

New Processes & Materials

TEFLON-GLASS LAMINATE resistant to chemical attack

Chemical and electrical properties of Teflon and the physical and mechanical properties of 0.002-in. glass cloth are combined in No. 6098 Lamicoid high temperature laminate. It has uniform thickness and surface finish. Laminate is highly resistant to chemical attack and mechanical abuse, and possesses low cold flow under heat and pressure. Techniques and adhesives make it possible to bond 1 or 2-oz copper foil to one or both sides for high temperature printed circuits and other uses. No. 6098 Lamicoid is made in 17 x 37-in. sheets in 0.006 to 0.250-in. thicknesses, priced from $25.65 to $241.62. • **Minnesota Mining & Mfg. Co.**, Mica Insulator Div., Box 1076, Schenectady 1, N. Y.

For more details circle NED-895 F on enclosed inquiry slip

TEMPORARY MARKING INK quickly removed by water rinse

Good adhesion to metals and plastics is claimed for Water Off Ink, used where markings are temporary and must be removed. It is quickly and completely removed by rinsing with water without scrubbing. Ink is noncorrosive and does not etch metals and most plastics, yet withstands abrasion and is not easily removed by normal handling of marked pieces. Application is by rubber stamps and ordinary ink pads, felt-tipped pens, and printing machines using fluid inks. Also offered is a polyethylene squeeze tube type disposable pen. Colors are white, black, blue, purple, red, green, brown, yellow, and orange. • **Organic Products Co.**, Box 428, Irving, Tex.

For more details circle NED-896 F on enclosed inquiry slip

ALUMINUM ELECTRICAL CONDUIT in 1/2 through 6-in. diameters

Light weight, corrosion resistance, and easy bending are advantages afforded by Grade 6063 aluminum electric conduit. It is available in diameters from 1/2 to 6 in., in lengths that measure 10 ft when a coupling is attached. Elbows are furnished in all sizes, including special radii. • **H. K. Porter Co.**, National Electric Div., Porter Bldg., Pittsburgh, Pa.

For more details circle NED-897 F on enclosed inquiry slip

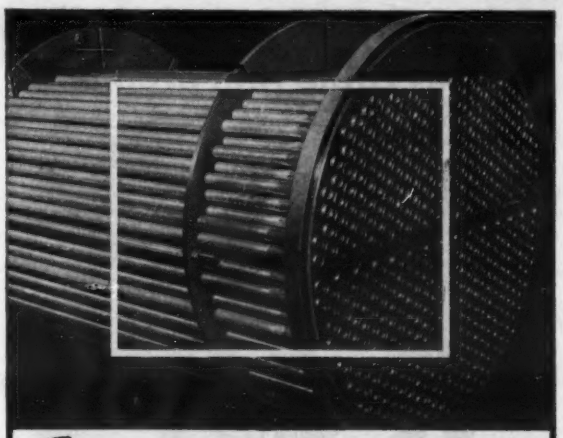
NEW line of STANDARD PLASTI-GROMMETS® CUTS FASTENING COSTS

Using Fastex Plasti-Grommets to mount license plates demonstrates their use in blind applications, just one of their unique solutions to individual or mass-production fastening problems. They snap into place easily, lock tight when the screw is driven.

FASTEX
A DIVISION OF ILLINOIS TOOL WORKS
195 Algonquin Road, Des Plaines, Illinois
In Canada: SHAKEPROOF/FASTEX
Division of Canada Illinois Tools Ltd, Don Mills, Ontario

itw

For more details circle NED-898 F on enclosed inquiry slip

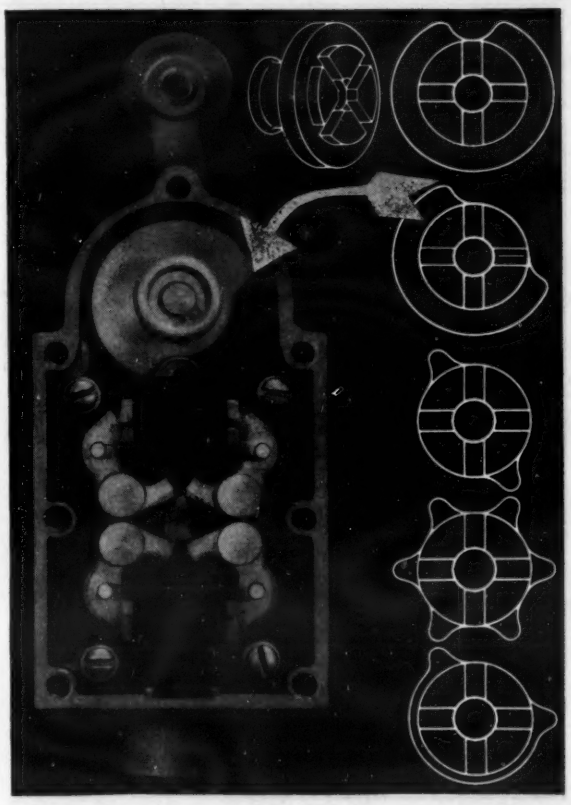


Transferring Heat?

. . . then look at the comparison above. The white rectangle in the photo represents the surface area of a length of plain tube. The entire photo shows the surface area of a piece of Wolverine Trufin® Type S/T of the same length. Both tubes are ¾" O.D. This is dramatic proof of the extra *surface* area Trufin provides. Yes, you get extra *service* too. Write.

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. E, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality Controlled Tubing

For more details circle NED-899 F on enclosed inquiry slip



the new SL-2...a standard limit switch with unlimited operating flexibility

Tailor limit switch performance to your specific job with NAMCO'S *standard* SL-2. This "machine life" limit switch features a standard cam blank which can be cut into a wide variety of configurations to meet any application. These interchangeable cams provide positive control of contact sequence; let you match switch operation to your specific job.

Now available for low-current, high-shock, excessive-vibration applications . . . the SLS-2 . . . with full-wiping, self-cleaning sliding contacts that insure "everytime" operation under conditions that spell machine downtime for other limit switches.

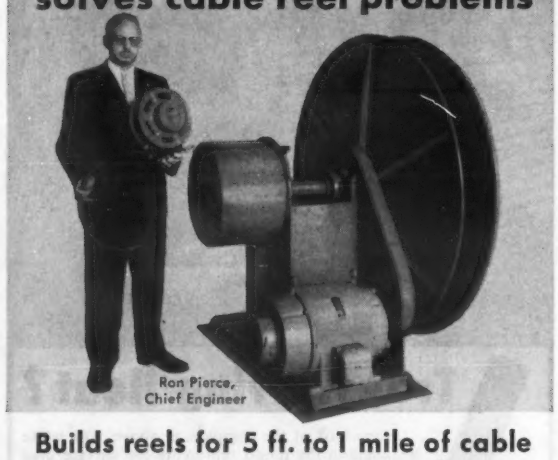
Get *all* the details on the NAMCO SL-2 line. Write for Bulletin EC-SL260, or contact one of our representatives. You'll find them in all principal cities.

National Acme
THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

For more details circle NED-900 F on enclosed inquiry slip

Get to know this man who solves cable reel problems



Builds reels for 5 ft. to 1 mile of cable with 7 unique and important advances

If you provide electric cable reels on equipment you sell—or use them in your plant—it will pay well to consider the unusual Pow-R-Matic reels. Their unique features make substantial savings in manufacture and operations. Write for details.

Aero-Motive

AERO-MOTIVE MFG. CO.
1805 ALCOTT ST. • KALAMAZOO, MICHIGAN

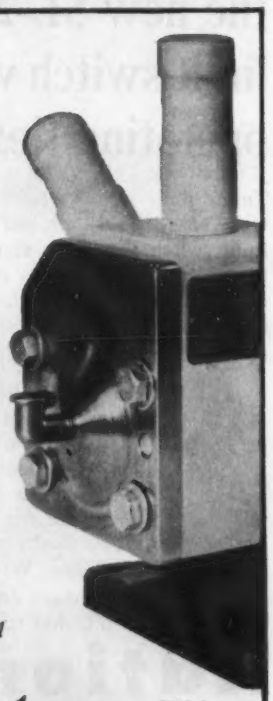
▲ For more details circle NED-902 F on enclosed inquiry slip ▲

Available in Stainless Steel, Silicon Bronze, Brass, Aluminum and Steel

JACOBSON NUT MFG. CORP. Kenilworth, New Jersey

▲ For more details circle NED-903 F on enclosed inquiry slip ▲

SEALLESS PLASTIC PUMP



Self-priming, non-agitating, without troublesome shaft seals or stuffing boxes, these uniquely designed pumps with 54 plastic body and liner combinations require little maintenance, can't leak or contaminate. Available in capacities from ⅓ to 40 GPM to discharge pressures of 60 PSI with temperature ranges from −60°F to +400°F.

Write for free catalog and Specification Information

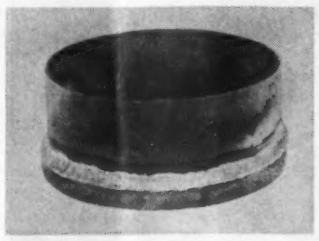
Vanton PUMP & EQUIPMENT CORP.

DIVISION OF COOPER ALLOY CORP., HILLSIDE, NEW JERSEY

▲ For more details circle NED-904 F on enclosed inquiry slip ▲

New Processes & Materials

BRAZING & WELDING FLUX
applied to work through torch flame



Continuous brazing without the need for painting the metal with powdered flux is made possible by Cast Iron Liquiflux, developed for brazing brass to cast iron and cast iron to steel with brass. Flux is applied by Rexarc Liquifluxer unit which vaporizes and induces the flux into the gas stream, passing it through the welding torch into the flame. Flux goes wherever flame goes. It is also a solvent for oxides on most cast irons and facilitates the flow of chrome alloys and cobalt and tungsten alloys applied to steel or cast iron. Special torches are not needed for using Liquiflux, 1 gal of which will process about 2500 cu ft of gas. • **Rexarc, Incorporated**, 38 E. Third St., West Alexandria, Ohio.

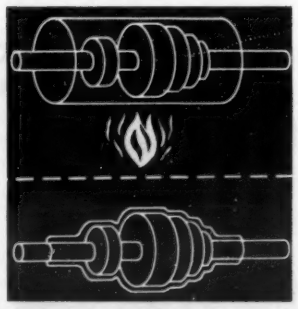
▲ For more details circle NED-905 F on enclosed inquiry slip ▲

CORROSION INHIBITOR
filming type in flake form

Super-Filmeen Flake filming-type inhibitor prevents corrosion in chemical feeding systems. Active ingredients, including the emulsifier, are film formers. The finely divided, waxy flake is easily weighed and dispersed in water. A 1 per cent dispersion has a pH of 8.5 to 9.5. Inhibitor is compatible with certain other water treatment chemicals and contains no water in its flake form. Product weighs 3.1 lb per gal, has a 115-120° F melting point, and is packaged in 55-lb fiber drums. • **Dearborn Chemical Co.**, Merchandise Mart, Chicago 54, Ill.

▲ For more details circle NED-906 F on enclosed inquiry slip ▲

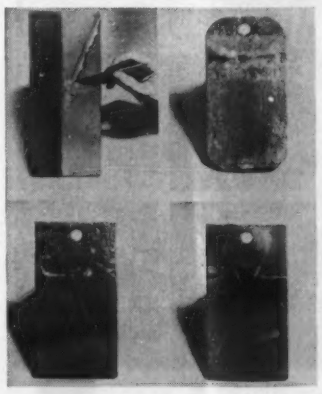
SHRINK-FIT TUBING
plastic shrinks when heated



After it has been expanded mechanically, thin and standard wall Teflon-TFE tubing will recover its original dimensions promptly when heat is applied. It clamps or fits over the inserted object tightly, yet retains its electrical, mechanical, and chemical properties over a range of −25° to 250° C. Tubing is offered in 11 colors, printed, and cut to required lengths. It can be made cementable. Uses include encasing irregular shapes, protecting electrical components, joining chemical tubes and metal fittings, and providing tight fits over rollers and machined parts. • **Pennsylvania Fluorocarbon Co.**, 1115 N. 38th St., Philadelphia 4, Pa.

▲ For more details circle NED-907 F on enclosed inquiry slip ▲

METAL PRIMER
prevents corrosion, undercutting



Bitumastic 11-S cold-applied inhibitive primer for metal surfaces in contaminated industrial or marine atmospheres prevents corrosion of surfaces before protective coatings can be applied and prevents undercutting where mechanical damage or breaks occur. Upper lefthand photo shows panel coated with the primer and immersed halfway in saltwater at 140° F for 30 days. Corrosion shows only along score mark. When this stain is scraped away, no undercutting from score itself can be seen. Panels at upper right, lower left, and lower right were respectively coated with zinc chromate, lead-silico chromate, and Bitumastic 11-S and kept in 220° F saline solution for 30 days. There is no corrosion in the latter primed sample except where scored. • **Koppers Co.**, Koppers Bldg., Pittsburgh 19, Pa.

▲ For more details circle NED-908 F on enclosed inquiry slip ▲

RUGGED for long and constant service

The Coffing Quik-Lift Series S Electric Hoist is designed and made to give dependable cycling service day after day on your production lines. To reduce wear and down-time the gearing system employs the patented Perry Speed Reducer in which more teeth are in mesh than any other type of system.

Long service life also is built in with a heavy-duty motor—oversize brake—safety limit switch—high strength, wear-resistant load sheave—alloy steel link chain—forged alloy hooks—heavy-duty ball bearings—lifetime lubrication and precision machined housings. Twelve models with ½ to 3-ton capacities available. Ask your distributor or write for Bulletin ADH-75.

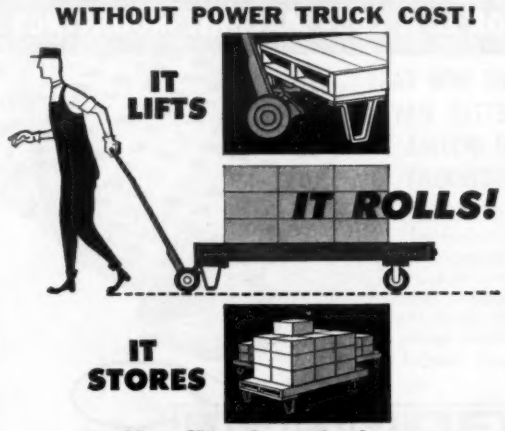
COFFING HOISTS

DUFF-NORTON

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-909 F on enclosed inquiry slip ▲

POWER TRUCK MOBILITY... WITHOUT POWER TRUCK COST!



Hamilton's exclusive

ROLL·N·STOR®

No double handling, no double costs with Hamilton Roll-N-Stor—the semi-live truck system that *lifts, moves and stores* loads quickly, easily—*keeps them mobile and ready to roll!* Easily moved by engaging lift jack to skid platform. One jack handles many platforms. System can also be used with lift trucks. Available in all-steel, steel bound, regular duty or heavy-duty wood construction.

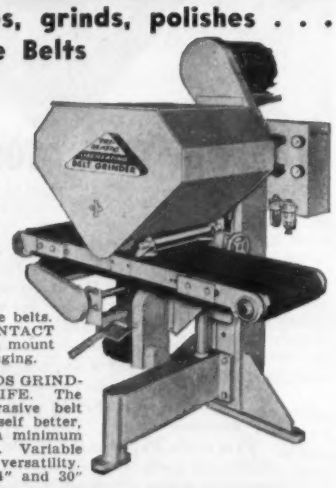
WRITE FOR ROLL-N-STOR BULLETIN AND NEW FLOOR TRUCK CATALOG

The Hamilton Caster & Mfg. Co.
1763 Dixie Highway Hamilton, Ohio

▲ For more details circle NED-910 F on enclosed inquiry slip ▲

NEW TRI-MATIC Oscillating Belt Grinder

deburrs, descales, grinds, polishes . . . Change Abrasive Belts IN LESS THAN 2 MINUTES



BELT TRACKING adjustments are completely eliminated. No projecting belt guides interfere with sliding one belt off and another on. It takes less than 2 minutes from turning off the machine to re-starting.

4 MACHINE SIZES IN 1. A simple adjustment permits use of 6", 8", 10" or 12" wide belts. EASY CHANGE CONTACT WHEELS. Contact wheel and mount are one unit for easy changing.

OSCILLATING BELT SPEEDS GRINDING, PROLONGS BELT LIFE. The shearing action of the abrasive belt makes it cut faster, clean itself better, reduces grinding pattern to a minimum and makes belts last longer. Variable speed conveyor adds to versatility. AVAILABLE in 12", 18", 24" and 30" models.

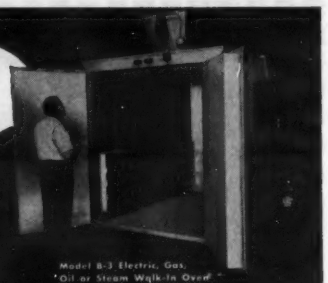
Write TODAY for illustrated descriptive Bulletin TM-459.
TRI-MATIC DIVISION

Send problem parts to our abrasive engineers for processing and suggested solutions. No obligation.

Sales Service Mfg. Co.
2365 University Ave., St. Paul 14A, Minn.

▲ For more details circle NED-911 F on enclosed inquiry slip ▲

WALK-IN OVENS



Shipped set up — merely uncrate and connect

Model B-3 Electric, Gas, Oil or Steam Walk-In Oven

Thorough factory testing assures immediate operation. No installation crews or plant tie-up.

- High velocity recirculating blowers
- Greater heat input
- Adjustable louvres for balanced airflow
- Superior heat seals

These efficient, rugged walk-in ovens incorporate the latest convenience features and safety devices.

Six Standard Models

- Work space from 96 to 240 cubic feet
- Temperature ranges: Standard to 650° F. Special to 1250° F.
- Factory Mutual approved electronic combustion safety devices
- Indicating temperature controller
- Factory tested and calibrated

Other ovens from $121.50 up, including a complete line of laboratory, bench, cabinet and custom-built units.

Write for literature to select the right oven for your application

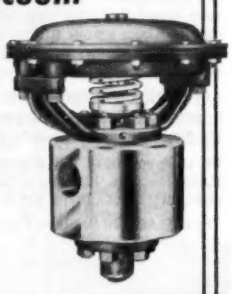
Specialists in Heat Process Equipment

GRIEVE-HENDRY COMPANY, Inc.
1353 N. Elston Ave., Chicago 22, Illinois

▲ For more details circle NED-912 F on enclosed inquiry slip ▲

SINCLAIR-COLLINS DIAPHRAGM OPERATED VALVES

...for control of high pressure hot or cold raw water, steam, oil, air, gas or vacuum



2, 3 and 4-way, automatic 2-pressure, 5-top, lever, check and selector types • air operated • automated or manual control • stainless steel trim • aluminum bronze billet bodies • pressures from near perfect vacuum to 6000 psi • ½ to 3 in. NPT • screw or flange mounted.

For more information, write for free Bulletin SC-59. Address Bellows-Valvair Ltd., 14 Advance Road, Toronto 18, Ontario, Dept. NED-660.

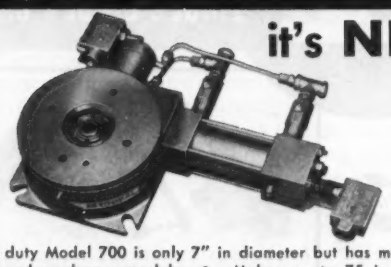
8120-1

The SINCLAIR-COLLINS VALVE Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 11, OHIO

▲ For more details circle NED-913 F on enclosed inquiry slip ▲

LOW COST 7" INDEX TABLE

it's NEW



The heavy duty Model 700 is only 7" in diameter but has most of the features found on larger models • Makes up to 75 indexes per minute • Handles maximum work load of 100 lbs. • Maximum power stroke is 3 times line pressure • Operates on pressures from 60 to 175 p.s.i. • Clockwise rotation with either 4, 6, 8 or 12 stations standard • Others up to 24 stations and counter-clockwise rotation, to order • Bolt larger sub-plate (up to 14" dia.) to ground steel table for larger work area • Positive index—no override • Adjustable cushion and speed control • Each table checked for guaranteed accuracy of index (± .0015"), concentricity and parallelism.

WRITE NOW FOR FREE CATALOG AND PRICE INFO.

AIR-HYDRAULICS INCORPORATED
231 HUPP AVE.
JACKSON, MICHIGAN

▲ For more details circle NED-914 F on enclosed inquiry slip ▲

New Literature & Catalogs

Rubber Compounding & Molding

Colonial Rubber Co.—How company compounds and molds natural and synthetic rubbers to meet exacting design specifications is related in 16-page Bulletin C-60. Sections detail the physical properties of Silicol, a rubber compounded in various formulations. Sheet forms for die cutting and fabricating by user are described.

▲ For more details circle NED-915 F on enclosed inquiry slip ▲

Heat & Cold Insulations

Baldwin-Ehret-Hill, Inc.—Properties and specifications for over 30 industrial heat and cold insulations for service from subzero to 1900° F are contained in 24-page 1960 catalog. Insulations include spun mineral wool, calcium silicate, and 85 per cent magnesia products in block, blanket, felt, fill, cement, and pipe insulations forms.

▲ For more details circle NED-916 F on enclosed inquiry slip ▲

Strainer Guide

Selection, performance, and sizing of industrial and marine strainers are covered in 88-page handbook entitled "Strainer Guide." It contains a compilation of reference data on the layout of fluid flow systems, results of test and research, and valve and pipe selection information. Over 100 pressure drop, temperature, and viscosity charts are included, as are descriptions of simplex and duplex strainers. Write on company letterhead to Tate Engineering, Inc., 516 S. Eutaw St., Baltimore 1, Md.

▲ For more details circle NED-917 F on enclosed inquiry slip ▲

Explosion Forming of Metal Parts

Chromalloy Corp., Propellex Chemical Div.—How the Explosiform process of shaping metal parts by means of explosive energy can be used advantageously is depicted in 4-page Technical Bulletin 4. Complex shapes can be formed economically, even from exotic metals such as molybdenum, tantalum, and titanium.

▲ For more details circle NED-918 F on enclosed inquiry slip ▲

Low Cost Control of Temperature

Assembly Products, Inc.—Simple and inherently stable Simplytrol temperature control packages will hold temperature accurately in a wide range of equipment and processes. Details of operation, circuitry, and variations of these thermocouple-actuated indicating controls are given in 12-page Bulletin 108.

▲ For more details circle NED-919 F on enclosed inquiry slip ▲

Molded Packings

Greene, Tweed & Co.—Applicable in all phases of industry, Palmetto molded packings are used on rods and pistons of hydraulic and pneumatic equipment, hydraulic presses, pumps, compressors, steam hammers, and similar machines. Eight-page Catalog and Price List M-160 describes Pyramid V-type, U-ring, Kup, and Pisto-Ring packings. Temperature range is −40 to 600° F.

▲ For more details circle NED-920 F on enclosed inquiry slip ▲

ELECTRIC BIN VIBRATOR

force of vibration can be varied

Silent operation characterizes this new motor - driven adjustable eccentric vibrator in which eccentric weights are mounted at the two ends. The weights can be closed into a semi-circle for maximum force or opened into a three-quarter circle for minimum vibration. They are held together with a bolt.

Type RC-10, smallest in the line, provides six settings ranging from 140 to 550 lbs. of equivalent impact. Type RC-30 has seven settings from 385 to 1,110 lbs., and Type RC-50 provides a range of 750 to 2,250 lbs., also in seven settings. The eccentrics are protected beneath end covers after they have been set for desired action.

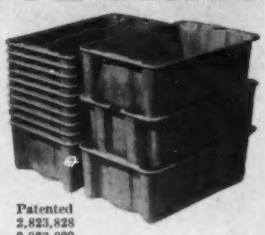
THE CLEVELAND VIBRATOR CO.
6K-2744 Clinton Avenue · Cleveland 13, Ohio

▲ For more details circle NED-921 F on enclosed inquiry slip ▲

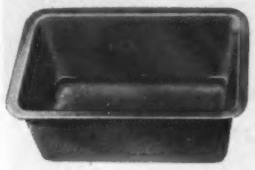
LEWIS TOTE PANS

are **STRONG**

One-piece fiberglass molded construction; can't rust, rot, dent or bend. Stack-n-Nest® pans handle up to 3000 lbs. safe static load. Available in 8 sizes, three attractive molded-in colors.



Patented 2,823,828 2,823,829



LIGHTWEIGHT

Lighter than an aluminum pan of the same size, these general purpose Lewis fiberglass pans handle bigger payloads with less effort.

. . . versatile

This Stack-n-Nest® truck is only one of the many different Lewis containers, each designed for a variety of handling operations. There are trays, pans, boxes, and trucks to fit all your handling requirements.

SEND FOR THE BIG LEWIS CONTAINER CATALOG TODAY

G. B. Lewis COMPANY
406 MONTGOMERY STREET • WATERTOWN, WIS.

▲ For more details circle NED-922 F on enclosed inquiry slip ▲

thanks to automatic **XEROGRAPHY...**

How to make 'Impossible' Deadlines:

20 Copies of a 500-Page Report...in 3 Hours!

It isn't often that anyone wants 20 copies of a 500-page report.

But a client of a Pittsburgh engineering firm did. Moreover, he wanted them in a hurry.

A few years ago, meeting the deadline he set would have been impossible. Besides, the cost would have been prohibitive.

Today neither is true, thanks to *automatic* xerography. By means of a XeroX® Copyflo® 11 continuous printer and offset duplicating, running off 20 copies of a 500-page report would be amazingly simple . . . *the work of a single morning.*

A Copyflo 11 continuous printer prepares offset paper masters, at the rate of 20 linear feet a minute, on a continuous roll 2,000 feet long and 11 inches wide. The roll is cut into individual masters, which are then mounted on offset duplicators for runoff of multiple copies.

Copyflo printers also copy onto plain, unsensitized paper or translucent vellum for diazo-type reproduction. They enlarge, reduce, or copy size to size, offering the speediest, most flexible, most economical way to get copies precisely like the originals from opaque documents of all kinds or from microfilm.

You, too, can make "impossible" deadlines with a Copyflo printer. Just push the button . . . and copies flow!

PUSH THE BUTTON... *and copies flow!*

For complete details, write for booklet X-287

HALOID XEROX INC.
60-209X Haloid St., Rochester 3, N. Y.
BRANCH OFFICES IN PRINCIPAL U. S. AND CANADIAN CITIES
Overseas: Rank-Xerox Limited, London, Eng.

HALOID XEROX®

▲ For more details circle NED-923 F on enclosed inquiry slip ▲

Speeds Vacuum Handling

Newest of Whiting Pressuregrip vacuum lifters, UNI-GRIP offers an economical way to cut machine feeding costs. Under one-man control, it lifts, spots, feeds objects as heavy as 2,000 lbs. . . . smooth surfaces or rough. Powerful single gripper is quickly changed to new size, or to multiple gripper bar. Reserve vacuum tank assures safety. Save manhours . . . cut handling costs! Write today for facts! *Whiting Corporation, 15660 Lathrop Avenue, Harvey, Illinois.*

WHITING

▲ For more details circle NED-924 F on enclosed inquiry slip ▲

NOW Controlled Tension From Start To Finish In Winding Roll-Fed Material

Never Before Anything So Efficient • Simple • Versatile

This is your chance to obtain a higher quality of wound material than ever before—and to save substantially on operating and maintenance costs at the same time.

You've never seen anything like the Hobbs "CHP" Winder. It's in a class by itself. No other winding device can match it for simplicity, efficiency and flexibility.

OPERATES ON A.C. Here is a squirrel cage three-phase A.C. motor, flange mounted to a gear reducer. It can be connected *directly* to your rewind shaft. It is entirely independent of the main machine drive. You plug it into your present three-phase power outlet—no transformers or converters to bother with. Then you set a knob to the desired tension and walk away.

AUTOMATICALLY SENSES TORQUE. From the start to the very finish of your rewind operation, the "CHP" accurately maintains the desired tension—protects even the most delicate materials from stretching, breaking or contracting. Automatically the "CHP" senses the increase in torque as the roll diameter builds up and it slows down the speed of the shaft in direct proportion. Controlled tension can be maintained in a roll build-up of as high as 10 to 1.

ECONOMICAL, FLEXIBLE. The efficiency of the "CHP" is many times greater than that of other types of winders. Maintenance is as slight as with any normal A.C. motor—there are no brushes or tubes. The "CHP" is compact, saves you floor space. It is clean, there are no belts to slip and stir up dirt. It is flexible—connect it directly to the rewind shaft, or remotely by chain and sprockets. And it needs no supervision, saves you labor costs.

MULTIPLE APPLICATIONS. The "CHP" Winder has already proved its adaptability and efficiency in multiple applications:—for winding, unwinding and inspection of paper, plastics, rubber and woven and non-woven textiles in a wide range of widths and weights.

Find out for yourself just why the Hobbs "CHP" Winder can make such a big difference—how it can give you increased production through *positive* quality control. Mail coupon below for free information. No obligation.

HOBBS MANUFACTURING CO.
41 F Salisbury St., Worcester 5, Mass.

Kindly send complete information on the new Hobbs "CHP" Winder.

Name ..... Title .....
Company .....
Street .....
City ..... Zone ..... State .....

▲ For more details circle NED-925 F on enclosed inquiry slip ▲

New Literature & Catalogs

Printed Circuit Printer

Wyrco Projects, Inc.—6-page illustrated folder explains operation of the new precision automatic screen printer for the automatic production of printed circuit boards. It will produce close tolerance printed circuit boards in sizes up to 17½ x 29½ in. in just 10 sec.

▲ For more details circle NED-926 F on enclosed inquiry slip ▲

Brazing Preform Design Considerations

Lucas-Milhaupt Engineering Co.—20-page booklet "Designing for Preforms" is actually a treatise on design considerations and examples of metal joints which lend themselves to use of brazing alloys in preformed shapes. It compares preform with hand feeding and discusses applications of round wire, flat wire, mandrel wound, and no-tangle notched-coil rings. Material selection chart is a highlight.

▲ For more details circle NED-927 F on enclosed inquiry slip ▲

Splicing Electric Cables

Okonite Co.—"The Fundamentals of Splicing and Terminating Rubber-Neoprene Cables" is title of 30-page illustrated booklet which outlines step-by-step procedures. Included are a tape selector, quantity estimating charts, and details of a line of work-simplifying splice kits.

▲ For more details circle NED-928 F on enclosed inquiry slip ▲

Conveyors & Handling Equipment

Stone Conveyor Co.—A broad range of conveyors and materials handling equipment is listed with specifications in 102-page catalog. Portable and heavy duty belt and screw conveyors, bucket elevators, storage bins, weigh batchers, ball bearing carriers, feeders, special industrial conveyors and feeders, floor-to-floor and vertical lift units, overhead conveyors, turntables, and roller conveyors are among the many items shown.

▲ For more details circle NED-929 F on enclosed inquiry slip ▲

Package Sealing with Tape

Minnesota Mining & Mfg. Co., Mid-States Gummed Paper Div.—Available literature includes two 4-page bulletins, MS-P1 and MS-P2, which respectively describe Green Core Packagineering using kraft sealing tapes and reinforced tapes. Supplemental data sheet MS-P4 presents test data that compare cost of two-strip carton sealing with reinforced sealing tape with that of stitching and stapling.

▲ For more details circle NED-930 F on enclosed inquiry slip ▲

Drive Instruments

Actuator Products Corp.—Detailed specifications supplied in 12-page APCOR instrument bulletin cover 12-speed instrument drives, geared adapters, single and double gearboxes, flexible shaft, and clutch assemblies. Drives are offered in reduction ratios from 10:1 to 50,000:1 with output speeds from 60 to 0.012 rpm and torques from 5 to 300 oz-in.

▲ For more details circle NED-931 F on enclosed inquiry slip ▲

the efficient **SEAL-GUARD®**

KEEPS DIRT OUT!

Modern *Seal-Guard* keeps hydraulic and pneumatic systems clean—protects packings and entire system. Two knife-like bronze wipers throw all contaminants outward as rod retracts into cylinder. Rubber retainer absorbs shock and side load, holds wipers in full contact with rod and provides an overall outside seal.

Send for all the facts on Seal-Guard. Write E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

SEAL-GUARD® by
Industry's Partner in Production
E. F. HOUGHTON & CO.
Philadelphia, Pa. • Chicago, Ill. • Carrollton, Ga. Detroit, Mich. • San Francisco, Calif. • Toronto, Canada

▲ For more details circle NED-932 F on enclosed inquiry slip ▲

New floor waxes resist dirt

New MULTI-CLEAN Waterproof Wax formulations *completely* eliminate factors which cause the permanent "tack" inherent in ordinary floor waxes. *Result:* Floors need cleaning less often and when they *do* need cleaning, dirt is more easily removed.

These new Waxes also excel in stability, very high resistance to blackmarking, ease of application, levelling, fast drying time, adhesion, buffability, water resistance, wear resistance, gloss, color retention, easy removal, and slip resistance.

6 Different Waxes—12, 15, and 18% formulations are each available in both Regular and Anti-Slip. *Write today for complete information.*

MULTI-CLEAN Method

MULTI-CLEAN PRODUCTS, Inc. Department NE-62-60 St. Paul 16, Minnesota

▲ For more details circle NED-933 F on enclosed inquiry slip ▲

Maximum guard rail safety... Minimum construction cost with **SPEED-RAIL SLIP-ON FITTINGS**

• no clamps, no washers, • no nuts to assemble

It's been proved many times that safety guard rails and balustrades built with Speed-Rail structural pipe fittings will save construction time and money. These unique fittings are simply slipped onto standard I.P.S. pipe and the set screws tightened with a hex wrench. Costly threading and welding are eliminated, pipe-cutting is reduced to a minimum.

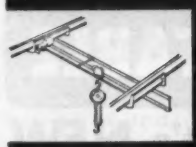
SPEED-RAIL Fittings, and the heavier-duty NU-RAIL Fittings, are the original slip-on structural pipe fittings. They are also the simplest and strongest fittings for building pipe structures.

Be sure you have full information on the only truly complete line of structural pipe fittings—SPEED-RAIL and NU-RAIL Fittings. Leading distributors stock them; get all the facts now—write Dept. 34-E.

THE HOLLAENDER MANUFACTURING CO., 3841 Spring Grove Ave., Cincinnati 23, Ohio

▲ For more details circle NED-934 F on enclosed inquiry slip ▲

BUILD-IT-YOURSELF COMPONENT KITS FOR CONCO SINGLE GIRDER CRANES



CRANES HOISTS CONCO

HAND POWERED OR ELECTRIC
TOP RUNNING OR UNDERHUNG — ½ to 5 TON

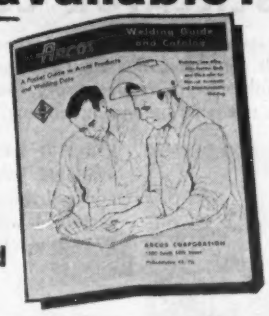
Kits include full directions and all parts except I-beam and cross shaft. Save time, labor and shipping costs! Ideal with Conco chain or electric hoist. For hand-geared kits, request Bulletin 2200 (Underhung) or 2300 (Top Running). For electric kits, request Bulletin 2250 (Underhung) or 2350 (Top Running). Kits are quickly assembled without special tools or skills.

Material Handling Division
Conco Engineering Works, Inc., Mendota 57, Ill.

AFFILIATES: Spartan Tool Division—Powered Sewer Cleaning Equipment
Field Control Division—Barometric Draft Controls
Conco Building Products, Inc.—Brick, Tile, Stone

▲ For more details circle NED-935 F on enclosed inquiry slip ▲

now available!



new pocket guide and catalog for better welding results

Nothing like it! Pocket size. Complete data on selection of rods and electrodes for welding stainless, low alloy, non-ferrous and light metals. Gives facts on applications, currents, preheating, annealing, AWS/ASTM classifications. Special sections on How to Get Better Stainless Welds, and Effect of Alloying Elements on Weld Metal. Comprehensive list of valuable technical data available. FOR FREE COPY write ARCOS CORPORATION, 1500 South 50th Street, Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

▲ For more details circle NED-936 F on enclosed inquiry slip ▲

PRETESTED HOLDING POWER

USE DIAMOND DHD® HAMMER DRIVE ANCHORS

Forged Aluminum Anchor and Hot Galvanized Nail Assembly. Size range: 3/16" to 1/2" dia. — 7/8" to 3 1/2" length.

Where holding power counts . . . use this expansive anchor . . . for all kinds of masonry
- Nail Type
- Vibration Proof
- Rust Proof

Only 3 steps to install in 20 seconds, 3/16" x 7/8" size

TRIAL OFFER: Write for catalog sheet and trial samples.

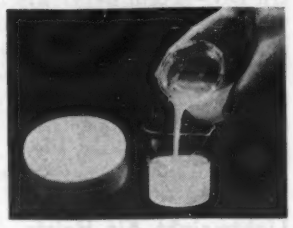
DIAMOND EXPANSION BOLT CO., INC. GARWOOD, NEW JERSEY

700 lbs.

▲ For more details circle NED-937 F on enclosed inquiry slip ▲

New Processes & Materials

CASTING RESIN withstands over 225° F when cured



Stycast T PM-5 is a polyethylene copolymer one-part casting resin which, when cured, can be used well above 225° F. Cured castings have physical and electrical properties similar to those of high density polyethylene. Resin exhibits excellent moisture resistance and low loss, making it useful as insulation in microwave, waveguide and coaxial components. • **Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.

▲ For more details circle NED-939 F on enclosed inquiry slip ▲

SILICONE INSULATION in tape and tubing forms

Fusible Sil-Rap Guideline tape and companion Sil-Blu silicone tubing feature physical strength, elongation, and resistance to compression set. These electrical insulations are adaptable for a wide range of uses. Tape has a colored guide line and requires only contact pressure to bond to itself. Triangular cross section insures a uniform thickness of the wrap on coils, harnesses, or electronic components. The 1½-in. widths are made in color-coded 0.04 to 0.08-in. thicknesses, spooled on 5-in. diameter rolls for ease of use. Mylar interleaving prevents fusing during storage. Tubing is stocked in sizes from ⅛-in. ID with 1/16-in. wall thickness to ¾-in. ID with ¼-in. walls. • **Minnesota Rubber Co.**, 3630 Wooddale Ave., Minneapolis 16, Minn.

▲ For more details circle NED-940 F on enclosed inquiry slip ▲

COLORED STAINLESS STEEL broadens architectural uses

Stainless steel in an array of colors will soon be offered for architectural paneling, building hardware, auto trim, acoustical tile, and furniture. First colors to be announced are black and shades of brown, which have already been tested. Under test are shades of blue, green, red, and gray. Color is achieved by applying a pigmented chromate-base coating and curing at about 350° F. Process is simple and requires no unusual pretreating, no primer, or no high temperature baking to achieve color adherence. • **Allegheny Ludlum Steel Corp.**, 2020 Oliver Bldg., Pittsburgh 22, Pa.

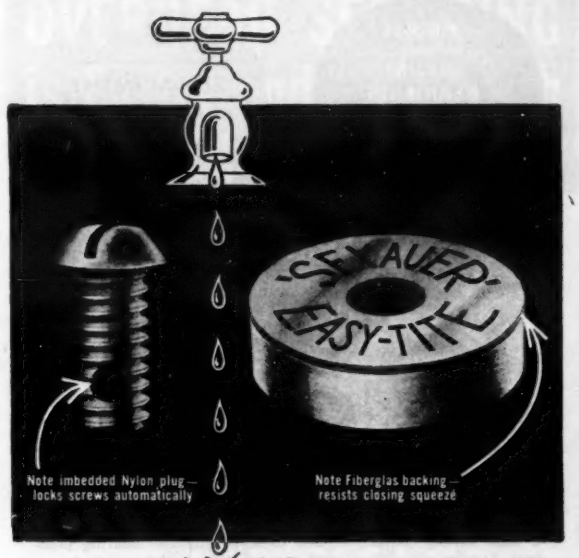
▲ For more details circle NED-941 F on enclosed inquiry slip ▲

YOU SAVE MONEY with *Homestead Lubricated Plug Valves* because of their *controlled* pressurized lubrication. Result? Complete coverage of all sealing

areas . . . no lubricant in the line to contaminate fluids, foul meters, or clog orifices . . . leakproof seal, long valve life, extremely low maintenance. For more money-saving advantages, write for Reference Book 39-1 or check item number.

hv HOMESTEAD VALVE MANUFACTURING COMPANY
P. O. Box 84 • Coraopolis, Pa.

▲ For more details circle NED-942 F on enclosed inquiry slip ▲



New Way to Stop Faucet Leaks!

★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.

★ NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.

★ Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-60
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name _____ Title _____
Organization _____
Bus. Address _____
City _____ Zone _____ State _____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle NED-943 F on enclosed inquiry slip ▲

INVESTIGATE... Savings obtained through

CUSTOM UPSET FORGING

COMMERCIAL offers years of experience in the design, engineering and production of improved component parts through upset forging. Your most difficult and unusual component problems can be solved efficiently by our engineers. Complete engineering and design service is cost free to you.

COMMERCIAL's complete metal forming service has helped companies in every industry reduce component parts costs. Facilities include 1½" thru the giant 8" upsetters, threading equipment to handle stock up to 6½" in diameter, and rough and semi-finished machining.

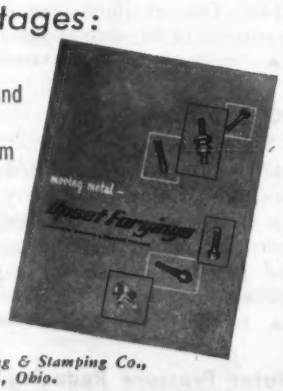
JATO NOZZLE developed for use as a part of a missile has through-pierced hole of varying diameters involving tapers at both ends.

BALL-JOINT HOUSING weighing 80 lbs. produced on 8" upsetter is flanged on one end, belled on the other, and open on both ends. Application involves four-wheel drive earth-moving equipment.

DIFFERENTIAL BULL-PINION GEAR upset forging for heavy duty tractor has through-pierced center hole approximately 11" long.

Upset Forging offers these advantages:

- Metal Saving
- Improved Structure and Surface Quality
- Greater, More Uniform Strength of Section



Find out more about moving metal!

Send today for informative booklet 600-P1 on upset forgings, stampings, and rotoforms.

Write Commercial Shearing & Stamping Co., Dept. J-23, Youngstown 1, Ohio.

COMMERCIAL shearing & stamping

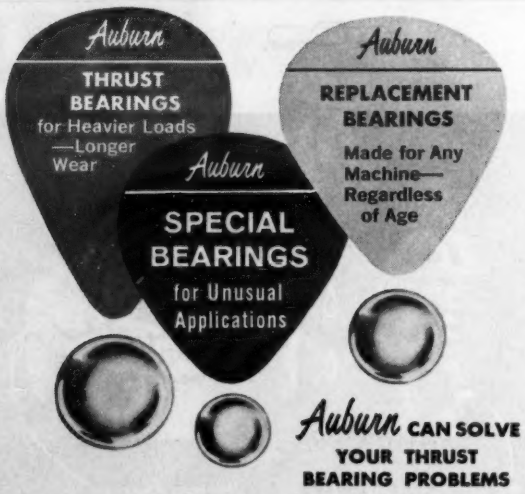
▲ For more details circle NED-938 F on enclosed inquiry slip ▲

Allsafe DRYBROW: The One-Piece, Free-Floating, Self-Adjusting, All-Rubber Headband, widely used by sweating workers, is now

This means that you get more for your money. Also, the extra length will completely eliminate perspiration that trickles down the sides of the head. Write today for your FREE and POSTPAID SAMPLE!

AMERICAN ALLSAFE COMPANY, INC.
1247 Niagara St. Dept. N Buffalo 13, New York

For more details circle NED-945 F on enclosed inquiry slip



Auburn CAN SOLVE YOUR THRUST BEARING PROBLEMS

Equipped with the specialized knowledge gained thru some 70 years experience, Auburn Ball Bearing is in position to render a wide variety of service, and to solve any ball bearing problem. Auburn will design and manufacture ball bearings to requirements, or will supply standard bearings. A unique feature of Auburn thrust bearings is that the bearing loads are carried at four contact points rather than the usual two.

• Let us help solve your thrust bearing problems

Auburn BALL BEARING CO.
Dept. M, 28 Industrial Street, Rochester 14, N. Y.

For more details circle NED-946 F on enclosed inquiry slip

New packaged cranes save you up to 50% on freight costs

Harrington packaged cranes, shipped complete with assembled end trucks and all parts except the I-beam and driveshaft, cut freight costs as much as 50%, because you buy your I-beam and driveshaft from a local steel service center. This permits you to easily adapt the equipment to changing materials handling requirements, too. And assembly is easy—no welding or drilling is necessary, only wrenches.

New Harrington packaged cranes are available in top and bottom running models, in capacities up to 5 tons. Write for detailed information today.

THE HARRINGTON COMPANY
Makers of Hoists Since 1876
Plymouth Meeting 16, Pa.

For more details circle NED-947 F on enclosed inquiry slip

New Literature & Catalogs

Powder-Actuated Fastening Tools

Olin Mathieson Chemical Corp., Winchester-Western Div.—Form B-141 will help answer technical questions on proper use of Ramset powder-actuated fastening tools. Information on working loads is included for the first time, and data on the Shure-Set hammer-in fastening tool are also provided. This hand tool sets studs into building block or concrete with two or three hammer blows.

For more details circle NED-948 F on enclosed inquiry slip

Lightweight Air Hoists

Thor Power Tool Co.—Complete operating, maintenance, and inspection instructions for five models of 500-lb capacity air hoists are provided in Service Manual No. 10756. Parts lists and tool diagrams are included in the 12-page guide.

For more details circle NED-949 F on enclosed inquiry slip

Linear Infrared Heat Sources

Fostoria Corp.—Infrared equipment for linear heat sources described in 8-page Form 60-240 is available as complete ovens, in components, and with gold or aluminum reflectors. Far-infrared quartz tube and metal rod heaters and near-infrared quartz lamp units are reviewed. First two operate at 1400° F, whereas quartz lamps have 4000° F filament temperature.

For more details circle NED-950 F on enclosed inquiry slip

Pressure Unions & Valves

Catawissa Valve & Fittings Co.—20-page Catalog 60 provides engineering data, sizes, weights, and dimensions of Perfect Seal pipe unions and swing check valves. Information is given for the first time on gasketless Cup-Orifice unions and ductile iron check valves. Any standard weight pipe union can be converted to an orifice type by inserting a cup-orifice plate.

For more details circle NED-951 F on enclosed inquiry slip

Air Cylinders, Valves, Dial Feed Tables

Allenair Corp.—Company's complete lines of air cylinders, valves, clamps, and dial feed tables are described and illustrated in 88-page catalog. Price lists are included.

For more details circle NED-952 F on enclosed inquiry slip

Heavy Duty Steam Coils

American Radiator & Standard Sanitary Corp., Industrial Div.—Among unusual data contained in 44-page Bulletin B1518 on heavy duty coils for steam, steam distribution, and hot water is condensate rating information for both saturated and superheated steam. Information covers four types of coils as well as materials and construction details.

For more details circle NED-953 F on enclosed inquiry slip

Drum Mixing Equipment

U. S. Stoneware Co., Process Equipment Div.—Expanded line of five sizes of heavy duty fiber drum tumblers highlighted in 12-page Bulletin DM-290 now features quick-release drum holders, floor-level loading, and built-in drum extenders. Bulletin shows series of loading charts from which a required size of tumbler can readily be determined.

For more details circle NED-954 F on enclosed inquiry slip

Industrial Twine & Cord

Sunset Line & Twine Co., Industrial Div.—More than 1000 items in a line of industrial twines and cords are shown along with appropriate data in 8-page catalog. Nylon, Dacron, linen, monofilament, and polyethylene constructions in wide choice of sizes are offered.

For more details circle NED-955 F on enclosed inquiry slip

AC & DC Welders

Miller Electric Mfg. Co.—"A Full Line of Fine Welders" is illustrated and described briefly in 12-page brochure of this title. Forty different units, comprising direct-current, alternating-current, and ac/dc industrial models; pedestal and portable spot models; and gasoline and diesel engine driven welders and powerplants, are reviewed.

For more details circle NED-956 F on enclosed inquiry slip

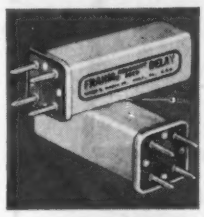
Water Pressure Reducing Valves

Leslie Co.—Ways that proper valve selection and application can reduce hidden costs in the use of water in industry are enumerated in 4-page Bulletin 553-A. At same time, it describes how water reducing valves operate and details proper sizing procedures.

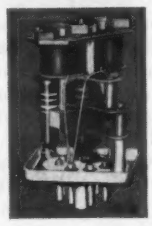
For more details circle NED-957 F on enclosed inquiry slip

FRAHM® RELAYS AND OSCILLATOR CONTROLS

For transmitting a number of control signals over a single communication circuit . . . as in selective calling, remote activation, supervisory control, data transmission, telemetering and monitoring.



FRAHM REED RELAYS are available with any one single nominal response frequency for each reed, within the range from 20 to 1000 cps.



FRAHM ROC RESONANT REED OSCILLATOR CONTROLS are available with any nominal control frequency between 20 and 1100 cps—constant within ±0.15% of the nominal control frequency.

We welcome inquiries on special applications.

WRITE FOR BULLETINS 33 D AND 34 D.

B-1009R

BIDDLE INSTRUMENTS
JAMES G. BIDDLE CO.
Electrical and Speed Measuring Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-958 F on enclosed inquiry slip

DiaTest SMALL BORE GAGES
in NEW, wide range **OF SIZES!**
DIAMETERS: .047" to 1.130"
ACCURACY: .00008"

ANNOUNCING NEW SETS
- **SET No. E-0:** Range .047" to .062"
- **SET No. E-161:** Nominal Range 1/16" to 3/8" (A "fractional" set, in increments of 1/16")
- FOUR additional sets available, covering range of .057" to 1.130".

(ALL SETS ARE COMPLETE with measuring heads, setting rings, dial indicator, etc.)

Diatest gages measure tapered, incomplete, out-of-round, and all other bore variations.

RIGHT ANGLE ATTACHMENT, EXTENSION RODS, AND DEPTH ADJUSTER ACCESSORIES ARE AVAILABLE.

Write today, or call NEwcastle 1-8888 for full information!

FOSTER SUPPLIES CO.
6122 MILWAUKEE AVE., DEPT. NED
CHICAGO 46, ILLINOIS

For more details circle NED-959 F on enclosed inquiry slip

GET THIS GUIDE TO GEAR LUBRICATION

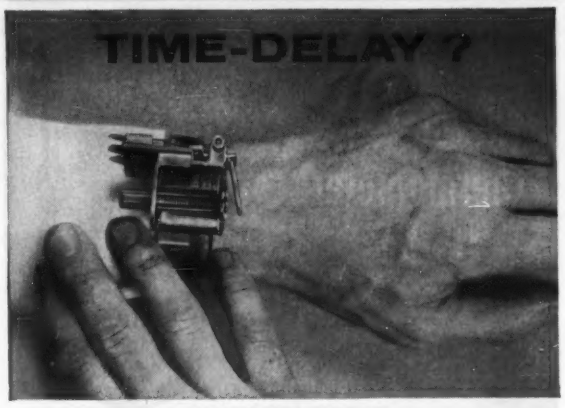
IT'S NEW
IT'S COMPLETE
IT'S **FREE**

If you design, build or use equipment with large gears, Bulletin 60-A can save you time, money and headaches—provides complete information on Farval Spray Lubrication Systems available for manual or automatic operation.

Write today. You will receive a copy of Bulletin 60-A and the name and address of the Farval representative in your area who is prepared to help you select the proper Farval equipment for your machines.

Farval Division
Eaton Manufacturing Company
3283 East 80th Street
Cleveland 4, Ohio

For more details circle NED-960 F on enclosed inquiry slip



Heinemann can give you any set delay from a quarter-second wink to a two-minute yawn, all wrapped up in a relay no bigger than a healthy ice cube. Called the Type "A" Silic-O-Netic Relay, this three-ounce time-delay unit offers S.P.D.T. or D.P.D.T. switching, with up to three amps' contact capacity. All of which is pretty good, but the real clincher is the continuous-duty coil. It permits the relay to be energized continuously, to serve as a load relay, too. This eliminates the need for auxiliary lock-in circuits. Result: substantial savings in space, wire, solder—and dollars. Bulletin 5003 gives detailed specifications; a copy is yours, of course, for the asking.

HEINEMANN ELECTRIC COMPANY

106 PLUM STREET TRENTON 2, NEW JERSEY

▲ For more details circle NED-961 F on enclosed inquiry slip ▲

HEATS FAST → SAVES TIME

johnson

NO. 142 HEAT TREATING FURNACE

Start heat treating high speed and carbon steels while other furnaces warm up. Powerful burners in this efficient furnace get heat up to 1300°–2350° F. range in minutes. Temperatures accurately and quickly regulated. Ratchet-operated door opens upward — no need to open fully every time. High temperature refractory-lined firebox keeps heat uniform — 7" by 13" by 16½". 200,000 BTU's per hr. Carbofrax hearth, G.E. Motor and Johnson Blower included.

F.O.B. Factory . . . $374.00

JOHNSON GAS APPLIANCE CO.
591 E Avenue N.W.,
Cedar Rapids, Iowa

▲ For more details circle NED-962 F on enclosed inquiry slip ▲

New Processes & Materials

SOLDERING FLUX
wets, cleans, and suspends oxides

Triple action Scavatin soldering flux not only reduces time and effort in soldering, but gives added fluidity to solder as a bonus. It can be used for copper, bronze, brass, sheet steel, terne plate, and galvanizing. Flux wets through dirt, oil, or grease; cleans and brightens the metal; and, upon application of heat, starts immediately to reduce and suspend surface oxide. Catalytic action increases fluidity of solder. Flux is packed in 4-oz squeeze type bottles and gallon containers. Latter is priced at $4.25. • **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

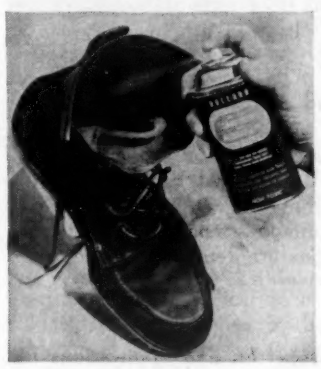
▲ For more details circle NED-964 F on enclosed inquiry slip ▲

FLEXIBLE AIR DUCT
suited for heavy abrasive work

Neoprene-coated nylon fabric that is mechanically interlocked with an electrogalvanized steel spiral is used in the manufacture of Type 8R industrial air duct. The flexible product is engineered to function within an internal temperature range of −20 to 250° F. Glass cutting exhausting, protective boots, wood chip removal, abrasive dust collection, and handling of pulverized or granular materials are applications. Size range is 4 to 10 in. ID in 10-ft lengths. • **Wiremold Co.**, Hartford 10, Conn.

▲ For more details circle NED-965 F on enclosed inquiry slip ▲

SANITIZER & DEODORANT
destroys odor producing bacteria



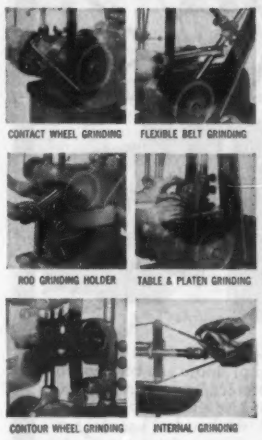
Two-Way sanitizer and deodorant with powerful germicidal effect chemically destroys odor producing bacteria and reduces hazards of airborne infectious viruses. Offered in 12-oz spray can, it can be sprayed on interiors or exteriors of buildings in such areas as dispensaries, meeting rooms, bathrooms, and in vehicles. It will not damage hard hats and caps, welding hoods, winter liners, boots or shoes, telephones, and instruments. Product is nonirritating to skin and can be inhaled without harm. • **E. D. Bullard Co.**, 2680 Bridgeway, Sausalito, Calif.

▲ For more details circle NED-966 F on enclosed inquiry slip ▲

You'll get increased production plus greater versatility with a

Hammond **UNIVERSAL BELT GRINDER**

This modern Hammond Universal Belt Grinder provides more ways of using abrasive belts on one machine than ever before. It can be used for a wide variety of grinding, polishing, buffing and deburring operations. This time-saving machine will speed up production and decrease labor costs on many operations in your tool room, machine shop, fabricating, assembly and other departments. Can be furnished as a bench or floor model, with or without built-in DusKolector. Many combinations available. Write for catalog.



GRIND...POLISH...BUFF...DEBURR ON ONE MACHINE!

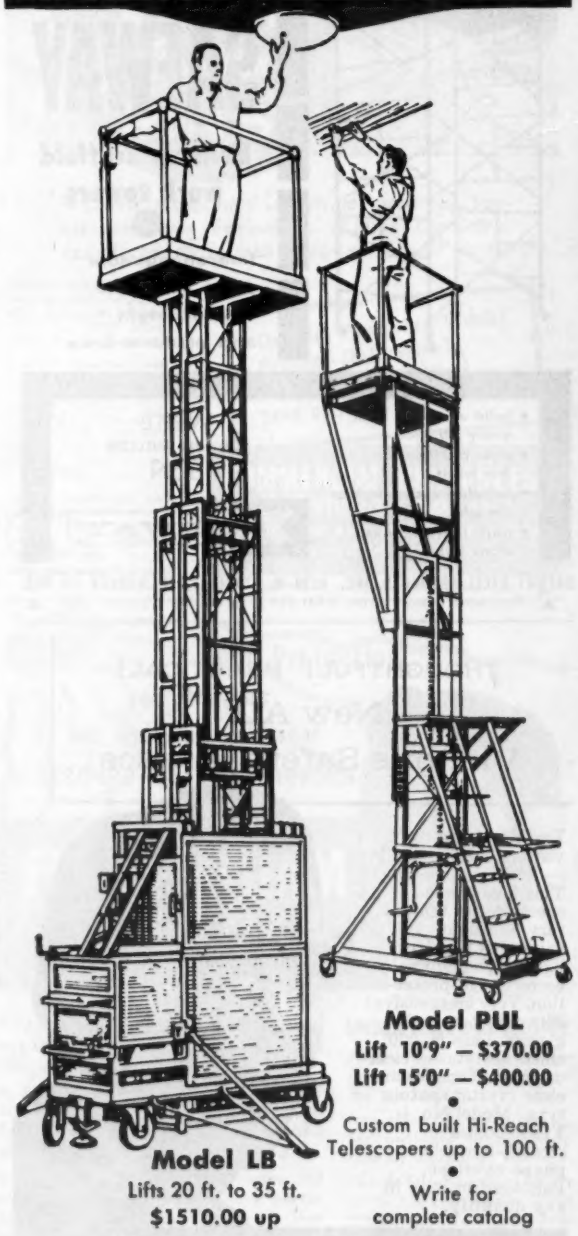
Model 096-50 — Other combinations available.

Hammond Machinery Builders INC.
1623 DOUGLAS AVE. • KALAMAZOO, MICHIGAN

AMERICA'S MOST COMPLETE LINE OF GRINDING, POLISHING AND BUFFING EQUIPMENT

▲ For more details circle NED-967 F on enclosed inquiry slip ▲

OVERHEAD SERVICING is Faster and Safer with HI-REACH TELESCOPERS



Model PUL
Lift 10'9" — $370.00
Lift 15'0" — $400.00
•
Custom built Hi-Reach Telescopers up to 100 ft.
•
Write for complete catalog

Model LB
Lifts 20 ft. to 35 ft.
$1510.00 up

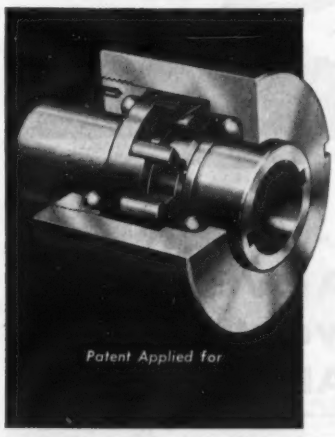
Headquarters for standard and special built overhead servicing lifters and material handling equipment since 1901.

ECONOMY ENGINEERING
4519 W. Lake St., Chicago 24, Illinois

▲ For more details circle NED-968 F on enclosed inquiry slip ▲

NEW! DUAL TORQUE-LOCKING & POSITIONING DEVICE

REV-LOK eliminates feedback torque, provides two-directional positioning, drive, over-running and backstopping

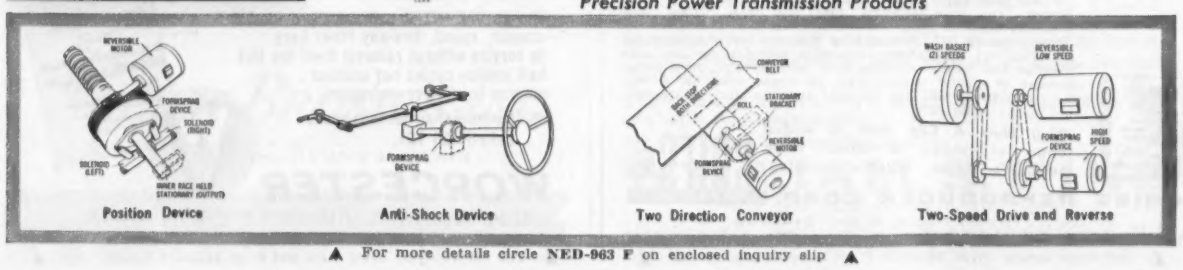


NOW! You can have positive and instantaneous stopping of feedback torque. With this new Formsprag device, simply mount the outer race in a fixed position and the full-complement of sprags will instantly stop feedback by wedging between output member and the outer race — feedback can never reach the input shaft. Yet, design permits transmission of driving torque in either direction from input to output shaft.

When used as a two-directional over-running clutch, output shaft is secured against rotation and clutch outer race is then the output member. Direction of drive, over-running and backstopping is determined by positioning of input shaft.

This versatile device is compact, has higher torque capacity for its size and weight and permits higher over-running speeds than any similar device. Its operation and features are explained in detail in a new technical paper, write for your copy.

FORMSPRAG COMPANY
23595 HOOVER ROAD • DEPT. 105 • WARREN (Detroit), MICHIGAN
Precision Power Transmission Products



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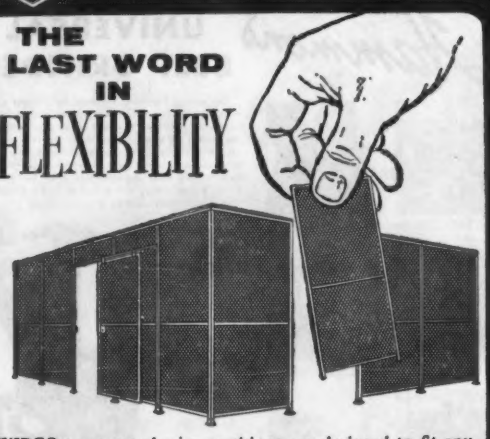
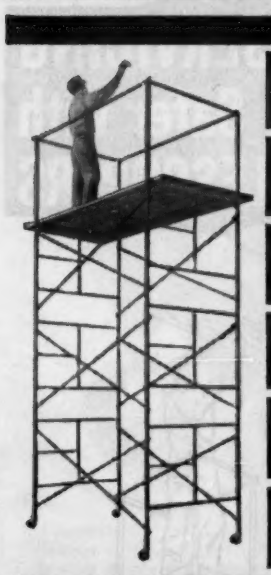
WIPCO WIRE PARTITIONS

THE LAST WORD IN FLEXIBILITY



WIPCO woven-steel wire partitions are designed to fit any area, regardless of height, location of doors and other openings, etc. Easy and economical to erect, your own men can put them up without outside help! Use them over and over again, salvaging each individual section for use in new erections. Available in *standard* sections from stock—or *custom-built* for any requirement, WIPCO partitions are easy to paint and clean—require little or no maintenance! For increased efficiency and flexibility at lower cost, get the facts on WIPCO wire partitions!

Write Today for Bulletin P-55!
WIRE & IRON PRODUCTS INC.
1727 SIXTEENTH STREET, DETROIT 16, MICHIGAN
▲ For more details circle NED-969 F on enclosed inquiry slip ▲



ROLL to the job anywhere
REACH overhead work
...with
SAFWAY
built-up scaffold work towers

Interchangeable parts assemble to any height and platform area

- build up towers to fit every job.
- work platforms at any levels.
- swiveling casters lock at the job.
- parts reassemble in many forms.

WRITE FOR FREE BULLETIN 86N

SAFWAY

SAFWAY STEEL PRODUCTS, INC., 6228 W. STATE ST., MILWAUKEE 13, WIS.
▲ For more details circle NED-970 F on enclosed inquiry slip ▲

THOUGHTFUL! PRACTICAL!
New AO
Visitor's Safety Glasses

Eye accidents to visitors can be costly — and embarrassing! This face formed spectacle for temporary and light exposures provides lightweight, optically correct, eye protection. Very inexpensive! Fits over personal glasses. Lens is .020" thick acetate — clear or green. Temples are clear crystal spatula type. Model No. is F790. Comes in scratch-free cellophane envelope. Packaged in bulk in any quantity.

Always insist on ® Trademarked Safety Products

Your Surest Protection . . . AO SURE-GUARD Products

American Optical COMPANY
SAFETY PRODUCTS DIVISION
Southbridge, Massachusetts
▲ For more details circle NED-971 F on enclosed inquiry slip ▲

New Literature & Catalogs

Industrial Capacitors

Westinghouse Electric Corp.—Many questions concerning application of capacitors for industrial use are briefly and simply answered in 12-page Booklet B-7642. It discusses power factor, benefits of capacitors, how to select capacitors, and where and how to apply them.

▲ For more details circle NED-972 F on enclosed inquiry slip ▲

Package Tying Machines

B. H. Bunn Co.—Versatility of company's automatic package tying machines is pointed out in 8-page Brochure 200 which presents actual thumbnail case histories of machines in use. Machines automatically tie packages and bundles, regardless of shape, that can be tied by hand. Case histories include industrial packaging uses.

▲ For more details circle NED-973 F on enclosed inquiry slip ▲

Portable Power Tools

Syntron Co.—Over 70 illustrations help describe self-contained electromagnetic hammers and drills, gasoline hammer paving breakers and rock drills, pulsating magnet form vibrators, and vibrating concrete floats in 12-page brochure. Complete data and specifications are provided.

▲ For more details circle NED-974 F on enclosed inquiry slip ▲

Molded Nylon Parts

Nylomatic Corp.—Among the assortment of molded nylon parts illustrated in 6-page catalog are numerous bushings, washers, rollers, gears, bearings, and glides, as well as specially designed parts. Many of the parts can be supplied in Delrin as well as nylon. Parts are made from stock molds.

▲ For more details circle NED-975 F on enclosed inquiry slip ▲

Two-Way Mobile Radio

Motorola Inc.—All Motorola two-way mobile base station equipment for radio despatching and communication are described in illustrated booklet. Several pages are devoted to details of antennas, monitor receivers, and Quick-Call selective signaling systems.

▲ For more details circle NED-976 F on enclosed inquiry slip ▲

Machines for Balancing Products

Tinius Olsen Testing Machine Co.—Two complete lines of static-dynamic balancing machines are covered in 20-page Bulletin 60. Described are compensator and pivoted cradle machines, as well as adaptations for checking jet and automobile engines and components. Automatic balancers are detailed.

▲ For more details circle NED-977 F on enclosed inquiry slip ▲

Roll Leaf for Marking

Acromark Co.—The properties and applications for hot stamping foil and transfer tape in marking thermoplastics, thermosetting plastics, and other materials are explained in "Acroleaf Chart." Available colors of this Cellophane and Mylar mounted foil are listed.

▲ For more details circle NED-978 F on enclosed inquiry slip ▲

another new exclusive GRC idea

smart

exclusive

new

GRC washer base wing nuts

- RUST-PROOF, CORROSION RESISTANT ZINC ALLOY
- CUT ASSEMBLY TIME • REDUCE COSTS

Integral wide diameter washer base eliminates need for separate washer. You save assembly time and labor. Lower your inventory costs as well!
These patented GRC recessed-wing nuts are highly suitable for all wing nut applications; especially desirable for use with oversize bolt holes, adjusting slots, soft surfaces. Hold better because of greater seating area. 14 thread sizes—No. 6 thru 3/8". In addition GRC has the most complete stock of standard and special wing nuts.

Wing Nuts & Cap Nuts in widest range of styles & sizes. Write today for new detailed catalog.

GRIES

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
143 Beechwood Ave., New Rochelle, N. Y. • NEw Rochelle 3-8600
▲ For more details circle NED-979 F on enclosed inquiry slip ▲

The dial thermometer at its best

DISTANT READING

Something much finer in a dial thermometer: finer because it is the bourdon tube type of thermometer at its best...embodies the greater precision and lasting accuracy of the Marsh Pressure Gauge.

Both vapor tension and gas-filled types are available in either distant reading or rigid stem types. In the broad Marsh line you have a complete selection of temperature ranges, case sizes, styles, and finishes.

RIGID STEM

Ask for the Thermometer Catalog

MARSH

MARSH INSTRUMENT COMPANY, Dept. 26, Skokie, Ill.
Division of Colorado Oil and Gas Corporation
Marsh Instrument & Valve Co., (Canada) Ltd.
8307 103rd St., Edmonton, Alberta, Canada
Houston Branch Plant, 1121 Rothwell St.
Sect. 15, Houston, Texas
▲ For more details circle NED-980 F on enclosed inquiry slip ▲

REVCO

ULTRA-LOW TEMPERATURE CABINETS

TEMPERATURES TO −140°F.

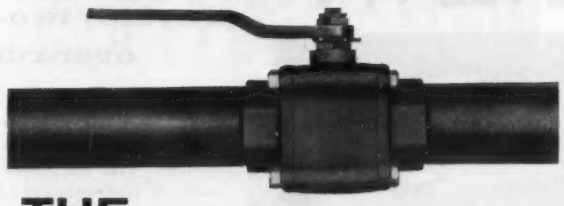
for
- Research
- Storage
- Seasoning
- Testing

Seven Revco cabinets, both chest and upright styles, are available. Capacities range from 1.5 to 6 cu. ft. in chests and to 22 cu. ft. in uprights. Units provide temperatures to −140° F. controllable within ±1°. Optional accessories are offered. Immediate delivery on all units.

For your FREE copy of the helpful folder, "Selecting a low temperature cabinet," write Revco, Dept. NED-60.

Industrial Products Div.,
REVCO INC.
Deerfield, Michigan
Setting Trends in Refrigeration Since 1938
▲ For more details circle NED-981 F on enclosed inquiry slip ▲

COMPARE



THE ECON-O-MISER BALL VALVE... with conventional GATE VALVES

The ECON-O-MISER ball valve provides smooth, round, two-way flow! Easy to service without removal from the line... half million cycles not unusual... acts as both valve and union.

For revealing facts request bulletin EB 101.

WORCESTER VALVE CO., INC. | WORCESTER 10, MASS.
▲ For more details circle NED-982 F on enclosed inquiry slip ▲

Redesigned to 1-Piece Stamping

Considerable costs were saved, plus improving appearance, by redesigning this seven-piece fabricated frame to a greatly simplified one-piece stamping. Spotwelding was eliminated. Exact duplication was achieved.

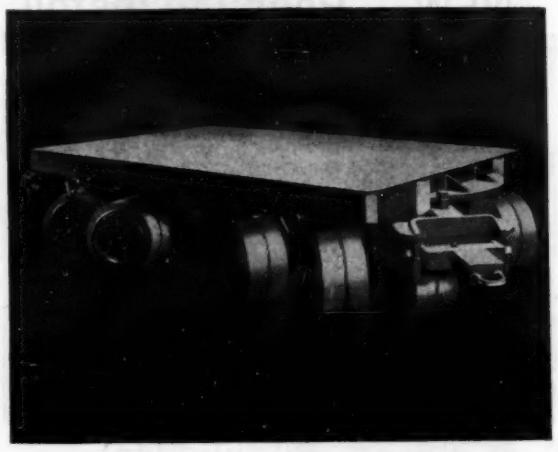
Got a fabrication problem? Chances are it can be solved with short-run stampings using the D-R method of utilizing temporary tooling. Send your print and/or sample, plus quantity, for prompt quotation. No obligation.

Bulletin F185 explains this highly efficient, specialized technique for cutting the work load and costs of metal fabricators. Send for it today.

DAYTON ROGERS *Manufacturing Company*

MINNEAPOLIS 7E, MINNESOTA

▲ For more details circle NED-983 F on enclosed inquiry slip ▲



Ruggedly built for tough in-plant loads

Salem-Brosius' Phillips-designed heavy-duty trailers are built to take a beating. They are designed to safely and economically haul forgings, castings, ingots, slabs, plate, coils and other products requiring in-plant handling.

Designed in load-handling capacities from 6000 to 600,000 lbs, Phillips trailers feature front and rear axle fifth wheels for better steering, articulated axles, Timken wheel bearings, solid or pneumatic tires, and 4, 8, or 16-wheel models. They may be used singly or in trains. Write for further information.

Ask about rugged Phil-Dumps. They dump automatically, stack, and handle easily with lift truck.

Phil-Boxes are excellent for carrying and storing heavy materials. They stack and easily collapse.

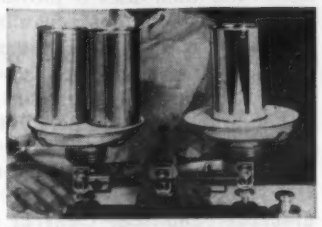
SALEM-BROSIUS, INC.

PITTSBURGH, PENNSYLVANIA

▲ For more details circle NED-984 F on enclosed inquiry slip ▲

New Processes & Materials

THIN TIN PLATE
tin is applied electrolytically



High strength and rigidity are claimed for a thin, lightweight tin plate, expected to have application in oil, frozen concentrate, paint, and detergent cans, baking pans, and frozen food trays. Experiments are still being conducted to determine the extent of its applications. The product weighs from 40 to 60 lb per base box of 217.78 sq ft, as compared with 75 to 100 lb for presently used tin plate. Tin is applied by an electrolytic method rather than by molten tin bath dip. Photo shows two cans made of the lightweight tin plate balanced against one can of heavier grade sheet. • **United States Steel Corp.**, 525 William Penn Place, Pittsburgh 30, Pa.

▲ For more details circle NED-985 F on enclosed inquiry slip ▲

BONDING PREPARATION
for Teflon, TFE, FEP, and Kel-F

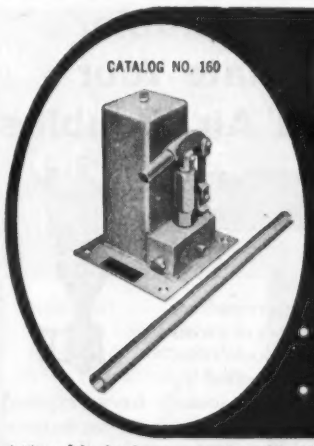
Such fluorocarbon plastics as Teflon, TFE, FEP, and Kel-F are surface-prepared for bonding to metals, plastics, glass ceramics, textiles, and wood with Bondaid. Preparation can be applied to an entire piece, or to a limited area, and prepares the surface for bonding with standard epoxy, phenolic, rubber, and silicone adhesives. It can be color dyed for identification of the fluorocarbon. • **W. S. Shamban & Co.**, Polytext Div., Box 1037, Culver City, Calif.

▲ For more details circle NED-986 F on enclosed inquiry slip ▲

SEALING & COATING MATERIALS
protect roof gutters, sheet metals

Family of sealing and coating materials for protecting roof gutters, metal flashing, and other sheet metal installations includes Pliogrip 12-1 seam sealer, 12-2 protective coating, and 12-3 caulking. Pliogrip 12-1 is a long-lasting water sealant which protects against corrosion by water, acids, and chemicals. It adheres to almost any surface and weathers well. Application is by gun or squeeze tube. Pliogrip 12-2 is applied by brush to form a resilient, abrasion resistant coating that resists oils, chemicals, and organic acids. Pliogrip 12-3, a heavy paste-like filler or caulking, adheres to metals, ceramics, and wood. It also resists chemicals, weathering, and age. • **Goodyear Tire & Rubber Co.**, Chemical Div., 1144 E. Market St., Akron 16, Ohio.

▲ For more details circle NED-987 F on enclosed inquiry slip ▲



Hand Hydraulic Pumps

• Single and Double Designs to 20,000 psi
• With or Without Reservoir

160 cubic inch reservoir with 8"x 8" base plate and 18" long handle.

Available with optional size pistons ⅜", ½", ¾", 1" and 1½".

We specialize in the manufacture of hand pump units which operate in temperatures from −65° F. to +160° F. and with any capacity reservoirs required. Pumps can be furnished on special order with custom seals to handle various aircraft types of fuels such as Pydraul, Skydrol, Oronite, etc.

The single pump with ½", ¾", 1" or 1½" piston is now available in stainless steel.

for additional information write:

WILLIAM S. PINE

hydraulic hand pumps for 1001 uses

1635 East 22nd St., Los Angeles 11, Calif.

▲ For more details circle NED-988 F on enclosed inquiry slip ▲

DON'T throw away WORN OUT GLOVES!

PLASTIC • LEATHER • FABRIC
Check GLOVCO first!

GLOVCO'S service makes worn out gloves safe and good as new at fraction of original cost.

• Yes, before you throw away your old worn out gloves, check GLOVCO'S nationwide service first! GLOVCO is saving industry up to 90% on gloves they once threw away. GLOVCO reclaims worn dirty plastic, leather and fabric gloves, welder's gloves, mitts, hand pads. Also hot mill, terry cloth, asbestos aprons and gloves, sleeves, drop cloths, protective clothing, etc. GLOVCO service is used in thousands of plants from coast-to-coast. Write for details and FREE trial demonstration. Satisfaction guaranteed.

GLOVCO also offers a variety of NEW GLOVES at great savings.

U. S. INDUSTRIAL GLOVE CORP.

9350 Roselawn Ave. Detroit 4, Mich. — 1920 Rose St. Pittsburgh 19, Pa.

▲ For more details circle NED-989 F on enclosed inquiry slip ▲

• Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.

Dowel—Straight—Countersunk—Angle and Spherical Ends
.020" to .1875" Diam.
.125" to 2" Length

Precise Specifications
Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
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• **Ideal for Hot Weather.** Filter's porous action absorbs and actually exhales body heat.

• Flex-A-Foam's lightweight (only 1 ounce complete) makes it cool and comfortable to wear — not hot and cumbersome like old-fashioned respirators.

• Flex-A-Foam is easier to breathe and talk through than an ordinary pocket handkerchief — does away with that stuffy, smothered feeling.

UNMATCHED ECONOMY

Flex-A-Foam is the lowest priced quality respirator on the market today.

Flex-A-Foam's washable filter outlasts throw-away type by more than 100 to 1.

Fewer filter replacements with Flex-A-Foam Dust Masks mean fewer lost production hours.

Your best *Ounce of Protection* against Irritating Dust

Sample only $1.45 postpaid (Industrial price only)

FLEX-A-FOAM DUST MASK ®

FLEXO PRODUCTS, INC. • Westlake, Ohio

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NO OTHER TOOL
CAN MATCH PORTER-CABLE
KANGO
ELECTRIC HAMMERS

- Built to take pounding vibration
- No Blow while idling
- Trouble-free operation
- Uninterrupted service
- Precision performance
- Low maintenance costs

AVAILABLE IN 3 MODELS
TYPE G: ¾" to ¾"; 1800 blows per minute
TYPE F: ⅜" to 1½"; 1600 blows per minute
TYPE E 1" to 3"; 1300 blows per minute

Used for drilling, cutting, forming, chipping, channeling, gouging, caulking, demolishing, tuck-pointing, vibrating, descaling—the KANGO is rugged enough to handle the toughest jobs.

Porter-Cable Quality Power Tools

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If you want a simple, compact, infinitely variable speed drive for . . .

agitators
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yarn rolls
or any one of hundreds of other devices requiring variable speed control

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It's quiet, efficient, economical. No belts or complicated linkage. Instant speed change by manual, automatic or remote control.

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McGill grounded portables protect against shock

Provide grounded power outlet

McGILL grounded portables provide positive protection and are built to take the abuse of rough service. Their exclusive grounding design insures safety against shock that is not found in ordinary guards when insulation wears through, wires short internally or the guard contacts exposed wires. Built for 3 wire cord and 3 blade plug. Built-in extension outlet for 2 parallel blades and a 3rd U shaped blade for ground. Impact resistant molded phenolic handles, extra heavy wire cages and famous LEVOLIER switch. Switch and cord optional.

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Send for McGILL Catalog No. 84.

No. 5025 SRG
- UL Inspected
- Conforms to NEC
- Grounding adapted as Standard by ASA

engineered electrical products
McGILL
precision needle roller bearings

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

For more details circle NED-994 F on enclosed inquiry slip

New Literature & Catalogs

Insulating Resins & Their Uses

Marblette Corp.—Easy-to-read guide to insulating resins and their uses is provided in the Maraset Electrical Resins Selector. It features Series E epoxy formulations for potting, impregnating, dipping, and coating electrical and electronic parts, products, and assemblies. Rigid and flexible resins, thixotropic pastes, varnishes, and Marafoam polyurethane foam-in-place materials are covered.

For more details circle NED-995 F on enclosed inquiry slip

Electromechanical Control Systems

Seneca Falls Machine Co., Electronics Div.—Electromechanical control systems and components for use on various production machinery are subject of 6-page Bulletin EE-1008. Information covers point-to-point control systems, speed control systems, and fractional and integral horsepower servo systems, as well as control system components. Typical applications setups are shown.

For more details circle NED-996 F on enclosed inquiry slip

Precision Seamless Tubing

Uniform Tubes, Inc.—Close tolerance tubing and tubular parts made from ferrous and nonferrous metals and alloys are subject of descriptive 12-page Bulletin 60. It lists sizes from 0.005 in. OD, wall thicknesses, and outlines properties and applications of various alloys. Company's fabrication service is also described.

For more details circle NED-997 F on enclosed inquiry slip

Concrete Floor Hardener

A. C. Horn Companies—Clear Seal is a transparent, quick drying, synthetic liquid which cures, seals, hardens, and dustproofs concrete floors. A complete product description, its advantages, properties, uses, method of application, and schedule of resistance factors are furnished in 4-page Form 43.

For more details circle NED-998 F on enclosed inquiry slip

Hydraulic Hose, Couplings & Fittings

Anchor Coupling Co.—Users of fluid power will find the 21 x 32-in. wall chart a ready reference for all re-usable hydraulic hose, couplings, and fittings. Chart is offered with a 10-page leaflet covering products for replacement use, plus 24-page Catalog D-1 which affords specifications and instructions on replacement products for on-the-job installation.

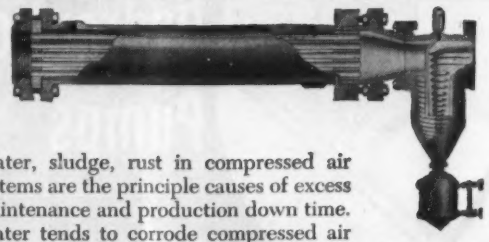
For more details circle NED-999 F on enclosed inquiry slip

Pressure Regulators

Marotta Valve Corp.—Inlet pressures range from 50 to 10,000 psi and outlet pressures from 5 to 10,000 psi in the RV-23 Series of manually or electrically operated and remotely controlled pressure regulators. Available in various line sizes, regulators are descriptively covered in 12-page folder with schematics, flow charts, and installation data.

For more details circle NED-1000 F on enclosed inquiry slip

An Adams Aftercooler Can Eliminate Your Compressed Air Troubles



Water, sludge, rust in compressed air systems are the principle causes of excess maintenance and production down time. Water tends to corrode compressed air lines and in winter months will actually freeze exposed systems. It is not uncommon for water to freeze in compressed air tools. Of course, some water can be eliminated by periodic blow-down of the air receiver. However, this represents a considerable loss of power.

These problems can be eliminated by the installation of an Adams Aftercooler and Cyclone Separator. By cooling the discharge air to within 10° of the cooling water temperature, the moisture and oil can be removed at the separator before the air passes into the receiver. The pressure loss is negligible—only ½ pound across the entire unit.

Why not investigate this low cost means of greatly increasing your compressed air operating efficiency? Write today for Bulletin 714.

R. P. ADAMS CO., INC.
227 EAST PARK DRIVE, BUFFALO 17, NEW YORK

For more details circle NED-1001 F on enclosed inquiry slip

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USE FOLD-UNI-KEY

7 IN 1 POCKET SIZE HEX WRENCH SETS

Open or Close Like a Knife

- FITS ALL TYPES OF HEX SOCKET SCREWS
- MADE OF HIGHEST QUALITY CHROME NICKEL ALLOY STEEL
- SCIENTIFICALLY HARDENED AND TEMPERED FOR LONG LIFE
- AUTOMATICALLY LOCKS AT RIGHT ANGLE

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	Price
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5 in 1 -HEAVY DUTY (Fits 3/8" to 3/4" set screws)	2.95 ea.

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EKLIND TOOL & MFG. CO.
2627-G N. Western Ave. Chicago 47, Ill.

For more details circle NED-1002F on enclosed inquiry slip

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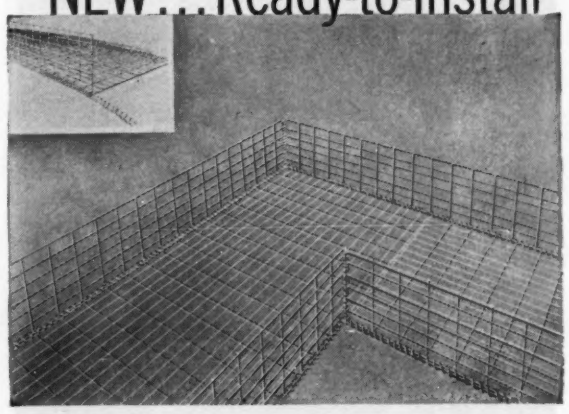

WIRE-SHIELD
Conveyor Guards

Save costs with these easily installed WIRE-SHIELD Conveyor Guards. Fabricated 2 x 4 welded steel mesh in standard 8 ft. lengths with a wide choice of widths and side heights. Finished in aluminum. Provides protection for all conveyors . . . straight, inclined and with 90° turns. Shipped ready-to-install.

WRITE FOR INFORMATION
SPRINGPORT Steel Products Co.
02 SPRINGPORT, MICHIGAN

For more details circle NED-1003 F on enclosed inquiry slip

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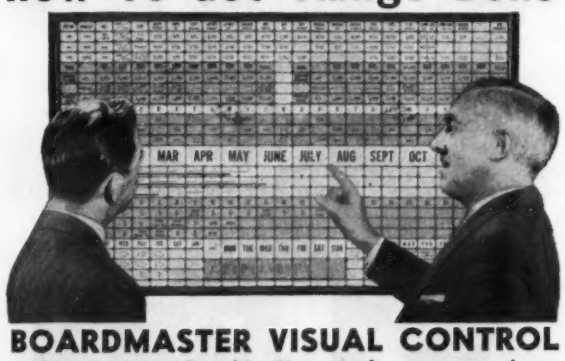

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Gives you a Graphic Picture of your operations, spotlighted in color. You See what is happening at a glance. Facts at eye level—save you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

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GRAPHIC SYSTEMS Yanceyville, North Carolina

For more details circle NED-1004 F on enclosed inquiry slip

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Plain and Motor Driven — 1 and 2-ton capacities

COIL CAPACITIES: 2,000 to 4,000 pound coils; 8" to 24" maximum widths; 45" maximum O.D.

Standard motor driven Littell coil cradles feed 600 inches of stock per minute. Also built with Variable Speed Drives for infinite feed range of 100" to 600" per minute.

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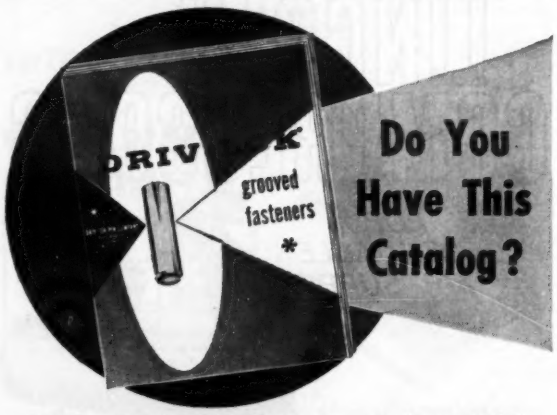

Contains Complete details on grooved pins and studs
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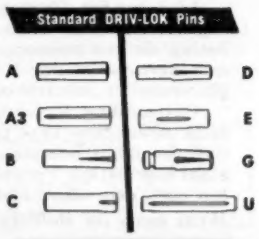
Write for your copy of the DRIV-LOK catalog today. Contains factual data in concise, easy to use form. Illustrated with typical applications that may help solve a fastening problem for you. Sent without obligation, of course.



DRIV-LOK SALES CORPORATION
717 Park Avenue • Sycamore, Illinois

▲ For more details circle NED-1006 F on enclosed inquiry slip ▲

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. . . Normally open or normally closed types
. . . May easily be converted to solenoid type

Ideal for operating single-acting cylinders. ¼", ⅜", ½", ¾" and 1" N.P.T. port sizes. Compact size, sturdy construction and simplicity of parts assure long service life and neat air system hookups. Choice of actuating valves to load and relieve pilot can be made from Schrader's many 3-way valves. Flow capacities 60 to 400 cu. ft. per minute.

Send for informative literature on these and all your air control needs. Schrader, maker of the most complete lines of air products in the world, has all the answers.

Schrader® — **A. SCHRADER'S SON**
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

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New Processes & Materials

DRAWING INK REMOVER eradicates all types of ink

All traces of India and regular inks, pencil and ball point markings, stamp pad ink, and carbon are thoroughly eradicated with X-A ink remover from all types of tracing papers, vellums, cloths, and plastic media. It will not warp tracing paper, nor damage plastic foil. Since it dries quickly, erased areas can be drawn or printed over almost immediately. An excellent drawing instrument cleaner as well, remover is offered in plastic container with needle spout for $1.50. • **Alvin & Co.**, 611 Palisado Ave., Windsor, Conn.

▲ For more details circle NED-1008 F on enclosed inquiry slip ▲

GLASS LAMINATE thicknesses up to 2 in.

Made of glass fabric reinforced with a silicone resin binder, Grade G-7 laminate has good dielectric loss factor and insulation properties under humid conditions. It also has high heat and arc resistance and meets NEMA requirements. Sheet size of random 24 x 36 in. is available in thicknesses over ¼ in. and up to 2 in. Sheets of 36 x 36 in. are made in thicknesses of ¼ in. and less. • **Synthane Corp.**, N. E. River Road, Oaks, Pa.

▲ For more details circle NED-1009 F on enclosed inquiry slip ▲

ASBESTOS-CEMENT SHEET can be bent into 18-in. circle

Flexible enough to be bent into an 18-in. diameter circle, Kamwall asbestos-cement structural sheet is a versatile, fireproof building material applicable to in-

terior partitions, soffits, bases for floor tiles, and small utility buildings. Sheet will withstand continuous temperatures up to 500° F, can be cut with a handsaw, and can be nailed or stapled within ¼-in. of its edge. It conforms well to irregular surfaces and allows unusual design effects. Material is rot and verminproof, water-resistant, and paintable. It also finds use in table tops, background material for exhibits, and displays. • **Keasbey & Mattison Co.**, Butler Avenue, Ambler, Pa.

▲ For more details circle NED-1010 F on enclosed inquiry slip ▲

No. 4773 Liquidproof 34" Shoulder Length GLOVES by PIONEER

Liquidproof . . . protects hand and arm to shoulder from liquids which do not adversely affect natural rubber.

One Piece . . . made in one piece, one size in ambidextrous design which fits either hand.

Send For PIONEER'S *FREE* "Foolproof Glove Selector"

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Gentlemen: (4773)
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Firm _____
Address _____
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HEATING EQUIPMENT
for Hardening • Annealing • Soldering
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ELECTRONIC TUBE GENERATORS:
1 kw; 2½ kw; 5 kw; 10 kw; 20 kw; 30 kw; 50 kw; 75 kw; 100 kw.

SPARK GAP CONVERTERS:
2 kw; 4 kw; 7½ kw; 15 kw; 30 kw.

WRITE FOR THE NEW LEPEL CATALOG 36 illustrated pages of valuable information.

LepeL HIGH FREQUENCY LABORATORIES, INC.
55th ST. & 37th AVE., WOODSIDE 77, N. Y.

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HYDRAULIC COUPLINGS AND HOSE

A FULL REUSABLE COUPLING LINE . . . ASSEMBLED TO SURGEPRUF NON-SKIVE AND SAE 100R1, 100R2 AND 100R5 HYDRAULIC HOSE . . . WITHOUT SPECIAL TOOLS!

Stewart-Warner's new, expanded Surgepruf line offers a full range of reusable couplings, hydraulic hose and adapters for all types of applications, ranging from fuel lines to high-pressure lines . . . available in complete assemblies for immediate use. Depend on this one reliable source for your hydraulic couplings and hose.

Only Surgepruf Reusable Couplings and Hose Have These Outstanding Features:

Superior Fluid Seal, with no wire braid exposure, eliminates seepage between coupling and wire braid.

Non-Skive Assembly provides fastest field assembly with just ordinary tools.

Superior Finish—precision-machined steel couplings have zinc dichromate finish . . . meet rigid salt-spray testing requirements.

Full Interchangeability—regardless of hose lines, Surgepruf couplings are available in any style and thread.

Write For New, Complete Surgepruf Catalogs!

Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION
1850 Diversey Parkway, Chicago 14, Illinois

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Jenkins' METLKORS automatically clean all kinds of conveyors . . . rubber covered, fabric, band, mesh, bar, plate, string. Adapt easily to any system . . . save time, money. Nylon bristles and metal cores resist corrosion.

1960 Catalog Packed With Data Write Today!

Specify Jenkins' METLKOR—the original—the best *Metal Core* brush

METLKOR® CYLINDER BRUSHES and LIFEWOOD® WOOD BACKED BRUSHES

M. W. JENKINS' SONS, INC.
Serving Industry for 80 Years
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H&K PERFORATED MATERIALS

. . . the most complete selection of traditional and contemporary designs

. . . for all requirements, industrial and decorative

. . . facilities for perforating most metallic and non-metallic materials

FIND NEAREST H&K AGENT in the 'Yellow Pages' Listed Under "Perforated Metals"

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THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • New York Office and Warehouse
5658 Fillmore St., Chicago 44 114 Liberty St., Dept. NED, New York

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MORE VALUE for LESS MONEY

FULLY HYDRAULIC
BT PALLET TRUCKS

The Lift Truck That Costs Less—Works Best

Now Only $350.00 F.O.B. Chicago

Extra rugged construction for Heavy Duty use. Precision built, BT fork-type PALLET TRUCKS are fully hydraulic, easy to use, highly maneuverable. Pivots 90°, both directions. SKF ball-bearing wheels, (available in steel, rubber or Bakelite). For single or double face pallets and skids. Lowered Height: 3¼" - 5" Lift. A real buy.

Model BT-24
2400 lb. Capacity..... $350.00
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YOUR CHOICE OF SIZES IN EITHER MODEL:
Fork Widths: 20½" or 27"
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(Specify width, length and wheel type when ordering)
(Dealer Inquiries Invited)

INDUSTRIAL HANDLING EQUIPMENT CO.
1221-23 West Monroe • Chicago 7, Illinois • MOnroe 6-8554

▲ For more details circle NED-1023 F on enclosed inquiry slip ▲

New Literature & Catalogs

Industrial Rubber Hose

Mercer Rubber Co.—Over 35 specific types of hose used throughout the manufacturing and processing industries, utilities, and in commerce generally are reviewed in 24-page Catalog 1059. Pertinent data as to size, weight, and ply working pressure are charted. Hoses usable in air drill, water, steam, oil suction and discharge, and acid applications are covered.

▲ For more details circle NED-1024 F on enclosed inquiry slip ▲

Laminated Plastics Selection Guide

Taylor Fibre Co.—Easy-to-use 12-page "Laminated Plastics Selection Guide" combines a 12-page manual with a quick-reference chart of characteristics for 21 commonly-used laminate grades. Also described are composite laminates, made by bonding a compatible material to a laminated plastic. Selection chart qualitatively rates mechanical, electrical, and general purpose grades of laminated plastics.

▲ For more details circle NED-1025 F on enclosed inquiry slip ▲

Automatic Machines & Systems

Universal Automatic Corp.—Machines and systems for high speed production of parts requiring secondary operations are subject of 12-page brochure. Basic machine in these precision tools is equipped with unusual devices for parts feeding orientation, locating, holding, clamping, and ejection. They perform high speed drilling, tapping, and threading operations.

▲ For more details circle NED-1026 F on enclosed inquiry slip ▲

Radioactive Compounds

Nuclear-Chicago Corp.—Radiochemical catalog, Schedule F, lists over 400 radiolabeled compounds, including new items, many of which are available in AEC license-exempt quantities. As many as 223 carbon-14, 79 sulfur-35, 46 phosphorus-32, and 42 tritium labeled compounds are listed with prices. High intensity beta and gamma sources for thickness gaging and radiography are also described.

▲ For more details circle NED-1027 F on enclosed inquiry slip ▲

Remote-Reading Flow Meters

Republic Flow Meters Co.—Bulletin 59.5 contains 28 pages of application and performance data on remote-reading electrical flow meters for liquids and gases at line pressures to 5000 psi. Included are flow charts, typical electrical circuits, piping arrangements, and piping requirements for orifices, flow nozzles, and venturi tubes.

▲ For more details circle NED-1028 F on enclosed inquiry slip ▲

Electronic Components

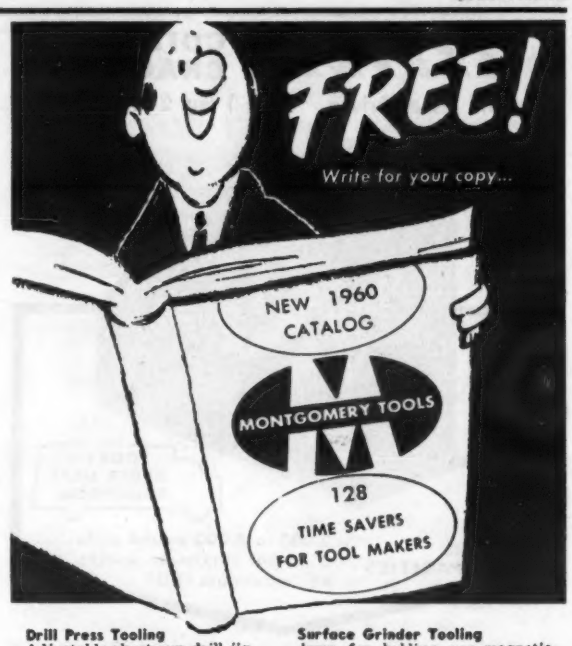
National Tel-Tronics Corp.—36-page guidebook catalogs standard and custom electronic components for military and commercial precision products. Shown are terminals, terminal boards and strips, jacks and plugs, and many other parts. Charts show physical and electrical properties of laminates.

▲ For more details circle NED-1029 F on enclosed inquiry slip ▲

WRITE FOR CIRCULAR 240-B

W-K-M DIVISION OF ACF INDUSTRIES INCORPORATED
Dept. Z06, P. O. BOX 2117, HOUSTON, TEXAS

▲ For more details circle NED-1030 F on enclosed inquiry slip ▲



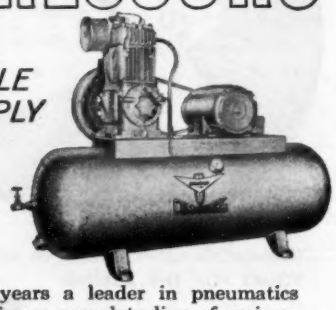
Drill Press Tooling
Adjustable short-run drill jig
Self-centering air vise
Combination tapping/deburring tool
Lathe Tooling
Ball-turning tool for concave and convex radii
Quick-change tool holders for turret work on standard lathes
Surface Grinder Tooling
Jaws for holding non-magnetic material on magnetic chucks
Milling Machine Tooling
Vise with automatically contouring jaws for any odd shape work
Inspection Tools
Thread Triangles for simplified measuring of pitch diameter

MONTGOMERY & CO. • 415 Morris Ave. • Springfield, N. J. • DRexel 6-4767

▲ For more details circle NED-1031 F on enclosed inquiry slip ▲

LINCOLN COMPRESSORS

FOR DEPENDABLE AIR SUPPLY



Lincoln, for 50 years a leader in pneumatics engineering, now offers a complete line of reciprocating air compressors. More than 200 horizontal and vertical models . . . from 1 to 90 CFM displacement . . . electric or gasoline driven.

Outstanding features include Lynite connecting rods, automotive type pistons, balanced crankshaft, oversize main bearings, loadless starting and constant lubrication. Factory- and field-tested for quiet, low-cost, *dependable* operation.

Write today for Bulletin A-110 and complete details.

6021

Lincoln LINCOLN ENGINEERING CO.
4010 Goodfellow Blvd., St. Louis 20, Mo.
Division of The McNeil Machine & Engineering Co.

▲ For more details circle NED-1032 F on enclosed inquiry slip ▲

NEW ROTOR Airiter
gives world's fastest, easiest marking

There's nothing like the new Rotor *Airiter!* It marks anything ...metal, plastic, glass, ceramic... parts or tools...as easy and fast as writing with a pen. No messy chemicals; no risky heat. Short-stroke carbide stylus makes up to 12,000 blows per minute. Speed and depth of mark easily controlled by throttle *on tool.* Will not stall while writing. Peening action...does not remove metal. Weighs only 5¼ ounces. Try it in your shop and see how it writes circles around other methods! Send us your purchase order. Money refunded if, after a five-day trial, the tool is unsatisfactory. *The Rotor Tool Company, 26327 Lakeland Blvd., Cleveland 32, Ohio.*

Only $49.50 plus postage
DEALERSHIPS AVAILABLE

▲ For more details circle NED-1033 F on enclosed inquiry slip ▲

ENGINEERED PLASTICS

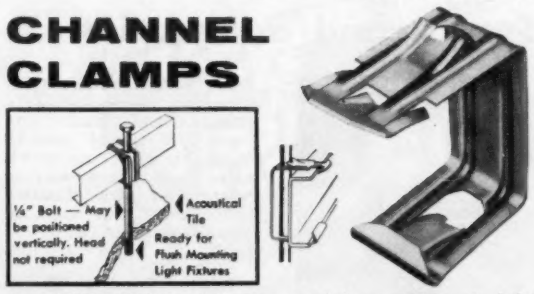
You'll benefit from Garlock's years of experience in injection molding, compression molding, extruding, punching, machining, and grinding of stock shapes and intricate parts. "Know-how" like this enables Garlock to recommend and furnish plastic materials exactly as you need them. Garlock offers a wide selection of shapes and parts—regardless of size, tolerance, or quantity—in Teflon* TFE, FEP . . . Nylon . . . Polychlorotrifluoroethylene (C.T.F.E.) . . . Delrin* . . . Polyethylene . . . Polypropylene. **Contact** one of Garlock's 26 sales offices and warehouses throughout the U.S. and Canada, or write for Plastics Catalog AD-177, Garlock Inc., Palmyra, New York.

GARLOCK

Canadian Division: Garlock of Canada Ltd.
Plastics Division: United States Gasket Company
Order from the Garlock 2,000 . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products
*DuPont Trademark.

▲ For more details circle NED-1034 F on enclosed inquiry slip ▲

INTRODUCING GAT® CHANNEL CLAMPS



Over 5000 GAT Channel Clamps were used recently on one installation of a new building at the University of Minnesota. The Clamps suspend the fluorescent fixtures from the lather's channel (see drawing). A cost saving of 50% was realized over former method, consisting of two drilling operations plus bolting in place. No other method provides the quality of installation at such a greatly reduced cost.

Plain ¼" or ⅜" rod may be used together with the GAT Fixture Clip to further reduce cost over the threaded bolt method illustrated.

how it works

No tools required for installation. Clamp is compressed between thumb and forefinger and installed on rod as illustrated.

For adjustment, clamp is compressed and moved to desired position. When fingers are released, built-in tension locks clamp to rod.

FASTENER PRODUCTS DIV.
Erico Products, Inc.
2070 E. 61st Place Cleveland 3, Ohio

▲ For more details circle NED-1035 F on enclosed inquiry slip ▲

BOWSER

FLOW indicators

TELEFLOW INDICATOR

Mechanical and electrical flow indicators; single and double-window flow sights; window flow indicators; and a full line of sight-feed oilers for O.E.M., in-plant and mill or machine installations.

FLOW INDICATORS

FLOW SIGHTS

FLOW INDICATING DEVICES

FREE FACTS BOOKLET

BOWSER, Inc. Fort Wayne, Ind.

▲ For more details circle NED-1036 F on enclosed inquiry slip ▲

New Processes & Materials

ADHESIVE LABEL MATERIAL
withstands alkalies, acids, solvents

Virtually indestructible Polychrome material for printed label use is easily applied and low in cost. The bright silver metallized polyester film has a surface resembling polished chrome. Its aluminum pigmented pressure sensitive adhesive permanently bonds itself to surfaces within a few hours after application. Both material and adhesive are waterproof and are not affected by acids, alkalies, hydrocarbons, esters, and other common solvents. A laminated, transparent polyester film protects the printed message. Total thickness without liner is 0.004 in. Nameplates, emblems, truck labels, and product identification are printed to specifications and supplied in any die cut shape. • **York Label Corp.**, 1951 Stanton St., York, Pa.

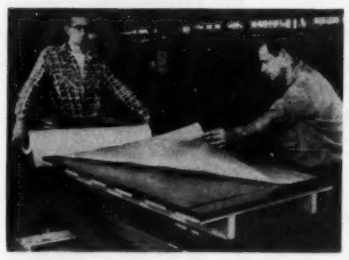
▲ For more details circle NED-1037 F on enclosed inquiry slip ▲

BRAZING ALLOY
self-fluxing type melts at 1300° F

General purpose copper phosphorus brazing alloy does not require flux on copper-to-copper joints. It starts to melt at 1300° F, has a wide brazing range, and can be used with copper, brass, bronze, and other alloys. Called Phos Sil O, the highly ductile rod has high corrosion resistance and is applicable in the electrical, construction, air conditioning, heating, plumbing, and manufacturing industries. It meets AWS and Federal specifications. Tensile strength is 90,000 psi. • **American Brazing Alloys Corp.**, Box 11, Pelham, N. Y.

▲ For more details circle NED-1038 F on enclosed inquiry slip ▲

PRESSURE-SENSITIVE PAPER
protects surfaces, fine finishes



Wide application in protecting various metal surfaces and fine finishes is provided by easy-to-apply, pressure-sensitive KB protective paper. It is easily stripped off a standard 36 x 48-in. roll and can be used on stainless steel, copper, brass, or fine polished wood surfaces. Available are KB1 non-stretchable and KB2 resilient, stretchable coverings which leave no stain or blemish when removed. Present material is white and can be written upon. Other roll sizes are available. • **Tech-Industro Co.**, 415 W. Pike St., Philadelphia 40, Pa.

▲ For more details circle NED-1039 F on enclosed inquiry slip ▲

LOW COST DRILL HEAD

VERSATILE: Drill capacity: No. 80 to 3/16" drill in mild steel. Air-powered traverse. 2" stroke. Optional hydraulic feed. Pulley drive. Choice of 8,000 or 12,000 RPM spindle speeds. Sold less valve. Can be controlled by low-voltage Bellows Electroaire Valve or any conventional 4-way valve.

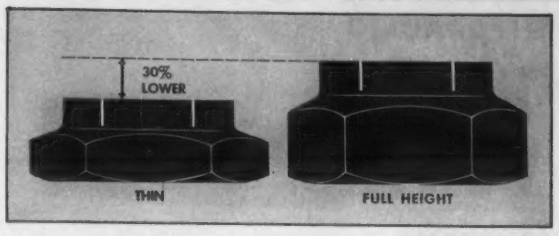
COMPACT: Only 2-1/2" x 3-5/8" x 12-3/16". Can be used in close quarters where other units often won't fit, eliminating additional manufacturing steps.

LOW COST: Model 22A Drill Head is priced so low that it often pays for itself in one production run. (Pulley and chuck, illustrated, not supplied as standard equipment.) 636-C

Write today for free Bulletin BL-22. Address Dept. NED 660.

Bellows-Valvair
The Bellows Co. • Valvair Corp. Akron 9, Ohio
DIVISIONS OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

▲ For more details circle NED-1040 F on enclosed inquiry slip ▲



FLEXLOC thin nuts save weight, space, production time

- 30% lighter than full-height locknuts
- Lock with shorter bolts; fit where ordinary locknuts won't; allow more compact joints
- Speed production—fewer turns needed to seat
- Provide high reliability—every thread carries full share of tensile load
- Simplify design, specification, inventory—1-piece fasteners
- Can be repeatedly reused
- Sizes #6 to 1½ in.

See your SPS distributor or write direct for Bulletin 866.

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-1041 F on enclosed inquiry slip ▲

a good team for steam

This Yarway team has scored high—over a million installed on all types of steam equipment. Stocked and sold by 270 Industrial Distributors. For free Steam Trap Book, write YARNALL-WARING CO., 131 Mermaid Ave., Philadelphia 18, Pa.

go YARWAY with confidence

▲ For more details circle NED-1042 F on enclosed inquiry slip ▲

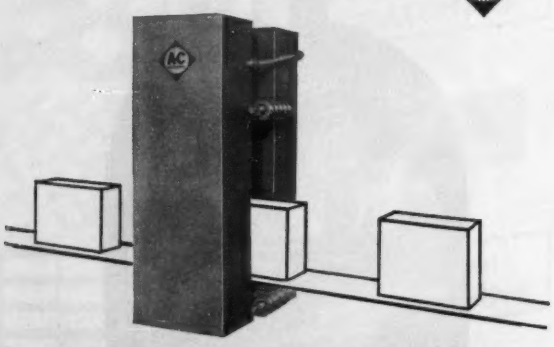
HYDRAULIC
REMOTE CONTROL
SYSTEMS

Completely self-contained . . . single tube . . . remote control eliminates use of compensators. Rugged and reliable . . . used in engine, machine tool and many other factory applications . . . wherever positive, accurate, instant duplication of movement is needed . . . no "sponginess."

EASILY INSTALLED

Sperry CONTROLS
HYDRAULIC REMOTE CONTROLS
Representatives in Principal Cities
SPERRY PRODUCTS CO. • 1706 SHELTER ROCK RD. • DANBURY, CONN.
▲ For more details circle NED-1043 F on enclosed inquiry slip ▲

ALLIS-CHALMERS



PRODUCT-PROTECTING METAL DETECTOR

Discovers stray metal particles (small as .07 inches), then activates a warning light, alarm or automatic ejecting device. Provides positive protection for both products and machinery. Readily applied to conveyors, chutes, ducts. Operating rate from 15 to 600 fpm. *Ask your A-C representative for Bulletin 15B7217B . . . or write* **Allis-Chalmers,** *Industrial Equipment Division, Milwaukee 1, Wisconsin.* A-1258

▲ For more details circle NED-1044 F on enclosed inquiry slip ▲

New! Improved J.I.C. Wiring Boxes!

OIL-PROOF
DUST-PROOF

Stocked by Selected Electrical Distributors

- Easy to open! Just loosen clamp screws a few turns!
- Clamp screws captivated, cannot be lost or mislaid.
- External mounting feet of heavy 12 gauge steel, welded, cannot come loose.
- Available with or without removable panel.
- Panel mounting spacers are integral with box—no holes—no leaks.
- JIC and Underwriters Laboratories approved.
- Attractive grey hammertone baked enamel finish.
- Special sizes, finish and special construction if you desire.
- Heavy gauge steel, welded seams, all sides flanged.
- Neoprene gasketed cover. No oil, water or dust can enter.
- Cover clamps on box, has no screw holes to leak oil or water.
- Cover chained to box, cannot be lost or mislaid.

Look what you get!

SPECIFICATIONS — Write us today!

BOX SIZE	PANEL SIZE	DEPTH COVER TO PANEL	GAUGE STEEL
4 x 4 x 3	No Panel	No Panel	16
6 x 4 x 3	4⅞ x 2⅞	2⅜	16
6 x 6 x 4	4⅞ x 4⅞	3⅜	14
8 x 6 x 3½	6¾ x 4⅞	2⅞	14
10 x 8 x 4	8⅞ x 6⅞	3⅜	14
12 x 10 x 5	10¾ x 8⅞	4⅜	14
14 x 12 x 6	12¾ x 10⅞	5⅜	14
16 x 14 x 6	14¾ x 12⅞	5⅜	14

Hoffman ENGINEERING CORPORATION
Dept. NED-51 Anoka, Minnesota
▲ For more details circle NED-1045 F on enclosed inquiry slip ▲

New Literature & Catalogs

Heating & Air Conditioning

American Radiator & Standard Sanitary Corp., American-Standard Industrial Div.—Bulletin B-5529 is in effect a condensed catalog of the line of products made by this division. It describes and gives ratings for air conditioning and handling equipment, fluid drives, heat exchangers, surface condensers, steel boilers, and related industrial products.

▲ For more details circle NED-1046 F on enclosed inquiry slip ▲

Precision Hand Tools

Handicraft Tools, Inc.—Describing specially-made tools for precision hand operations, 12-page Catalog for 1960 covers tools for cutting, trimming, slicing, deburring, etching, and parts holding. Included in this line of X-acto Handicraft tools are multipurpose Swedish steel seizers for gripping and holding wires, electronic components, and other small parts.

▲ For more details circle NED-1047 F on enclosed inquiry slip ▲

Cold-Rolled Strip Steel

Caine Steel Co.—Feature of booklet on cold-rolled strip steel is an easy-to-read table of estimated weights. Company produces round-edge, cold-rolled flat wire and round-edge strip in all thicknesses, widths, and tempers for all users, large or small. Table gives weight per lineal foot in pounds for ⅜ to 6-in. wide strip in thicknesses from 0.049 to 0.187 in.

▲ For more details circle NED-1048 F on enclosed inquiry slip ▲

Tilting Disc Check Valves

Edward Valves, Inc.—One-piece cast steel tilting disc check valves discussed in 12-page Catalog 14-Y are designed for all-welded conventional and nuclear piping systems in 900, 1500, and 2500-psi pressure classes and sizes from 6 to 20 in. Ratings, flow index table, curves, test results, and valve material specs are provided in bulletin.

▲ For more details circle NED-1049 F on enclosed inquiry slip ▲

Three-Way Valves

Airmatic Valve, Inc.—Full capacity series three-way valves specified in 12-page Bulletin 91023 are designed for air, oil, water, gas, chemical, or vacuum service. Valves are rated from 0 to 250 psi and offered in ¼ to 1-in. pipe sizes. Covered are direct and pilot solenoid operated, mechanical and manual, and pilot operated and time delay units.

▲ For more details circle NED-1050 F on enclosed inquiry slip ▲

Dust Collectors

Hammond Machinery Builders, Inc.—Practical ways for solving dust, dirt, and mist collecting problems in the plant are described in 16-page Catalog DK-820. It explains how to achieve maximum results with various models of DusKolectors. Installation recommendations cover situations in assembly departments, polishing and buffing departments, crating rooms, and other dust producing locations.

▲ For more details circle NED-1051 F on enclosed inquiry slip ▲

Slip Ring Assemblies

Breeze Corp.—28-page Catalog 66 SR describes line of seven standard slip ring assemblies with ring envelope diameters from 1 through 10½ in. These electromechanical units transfer electrical energy from stationary to rotating structures where the use of wires or cables is not feasible. Custom assemblies for general control and power, high voltage, radio frequency and video, switching, and high speed instrumentation are also covered.

▲ For more details circle NED-1052 F on enclosed inquiry slip ▲

Milling Machines

Cincinnati Milling Machine Co.—Four machines now comprise the Toolmaster milling machine line. This expanded line is subject of 24-page Catalog M-2110. Machines have 42 x 10-in. work surface, with 22-in. longitudinal traverse, 10 in. cross movement, and 17-in. vertical knee movement. Photos show these machines on the job and point up exclusive features.

▲ For more details circle NED-1053 F on enclosed inquiry slip ▲

Precision Hermetic Seals

Dage Electric Co.—Basic types of precision hermetic seals available for evacuated or pressurized enclosures are listed in 26-page Catalog 1259. Each is listed with complete dimensions, and a special section gives latest accepted glass seal nomenclature. These glass-to-metal seals are tested against moisture, corrosion, pressures, vibration, and rare atmospheres.

▲ For more details circle NED-1054 F on enclosed inquiry slip ▲

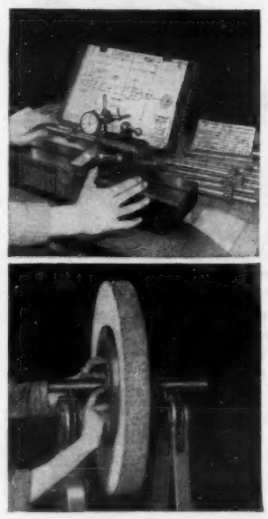
STEAM TRAP TESTING
is accurate and positive with an
Alnor PYROCON®

If the steam trap is clogged or blowing steam to the point where the hand test indicates poor functioning, it has gone too far. But the Alnor Pyrocon, by instantly registering the temperatures on each side of the trap, will spot trouble right at the start before failure becomes serious.

The Alnor Pyrocon saves its cost many times over and over again in time saved locating a poorly operating steam trap. Price for the model 4000 complete is only $135.00. Bulletin No. 4257 gives complete Pyrocon information.

Alnor INSTRUMENTS
Pyrometers-Velometers-Dewpointers
ILLINOIS TESTING LABORATORIES, Inc.
Room 529, 420 N. LaSalle St., Chicago 10, Ill.
▲ For more details circle NED-1055 F on enclosed inquiry slip ▲

Check balance and runout accurately with Sundstrand accessories



Check Runout Within .0001" Limits on gears, sprockets, pinions, etc. Sundstrand "one-hand control" over all moveable elements leaves other hand free to control rotation of part. Standard bench centers in ten sizes range from 6" x 18" to 24" x 72".

Balance Grinding Wheels, Flywheels, Pulleys, etc., quickly and precisely on any of nine standard sizes of Sundstrand balancing tools. All but No. 5 extra-heavy duty size are portable, can be placed where needed without leveling. Capacities range from 12 to 24,000 lb. No limit on "swings" or distance between centers.

DISTRIBUTORS:
Sundstrand Bench Centers and Balancing Tools offer attractive sales opportunities. Investigate. Details on request.

SUNDSTRAND-AMERICAN BROACH
DIVISION OF SUNDSTRAND CORPORATION
ANN ARBOR, MICHIGAN
▲ For more details circle NED-1056 F on enclosed inquiry slip ▲

microflex
RESET TIMER
20 turn dial provides EXACT timing for industrial processes
The double micrometer dial permits 1200 accurate, visual settings over entire dial range. Set this timer for 18 min. 6 sec. or any other exact time setting required.

Savings Large 15 ampere contacts eliminate additional load relays. • Stop down time with plug-in components for fast timer replacement.

Flexibility Easy to set dial whether short or long timing. • Choice of 9 actions available for each of 3 contacts. Select operation required for your circuit.

Accuracy Set dial to exact time required. No guessing at numbers. • Accurate repeatability insures uniform production.

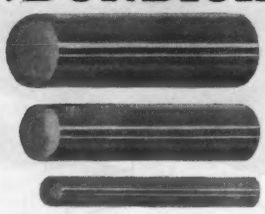
Reliability Proven reliability in thousands of industrial processes for more than 25 years.

SEND FOR NEW EAGLE BULLETIN 110
Simply write to Eagle Signal Corporation, Industrial Timers Division, Moline, Illinois, Dept. NED-660.

EAGLE SIGNAL CORPORATION
Industrial Timers Division • Moline, Illinois
▲ For more details circle NED-1057 F on enclosed inquiry slip ▲

DELUXE
PLUG GAGES
by DUNDICK

ONLY $1.25 per gage in lots of 10 or more in your choice of sizes



THE GAGE WITH A MILLION USES

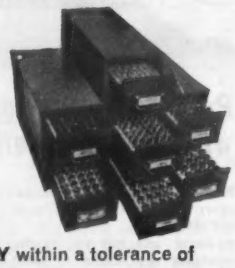
Core Pins • Gages • Perforators • Set-up Pins • 2" Long

721 sizes—from .030 to .750

FREE CABINETS

Free cabinets included at no extra cost with each complete or sectional order of the new Dundick DeLuxe Gages.

- Each cabinet complete with lacquered hardwood block. Contains properly identified and sized holes to hold pins.



GUARANTEED ACCURACY within a tolerance of plus or minus fifty millionths.

DUNDICK TOOL WORKS, INC. 3410 West 31st St. Chicago 23, Illinois

▲ For more details circle NED-1058 F on enclosed inquiry slip ▲

Available NOW

DEPENDABLE PS MATERIALS HANDLING EQUIPMENT

STANDARD SIZE PALMER-SHILE Adjustable STORAGE RACKS SERIES 60 Pat. App. For

JUST TWO STEPS—SET UP PANELS SNAP SHELVES IN POSITION

3 SHELF SIZES • 1 PANEL SIZE PRICED AT...

★ **CAPACITY 5000 lbs. per shelf** ★

All prices F.O.B. Detroit, Michigan

IMMEDIATE DELIVERY FROM STOCK OF LOW COST P-S Standard Series 60 Racks are ideal where fast action is necessary to solve your storage problem. Built of sturdy steel channel they are capable of handling almost any kind of materials and merchandise on pallets, skids, boxes or barrels. Come in four pieces — A. Vertical PANEL 8½' high, 30" deep and 2½" wide with shelves adjustable to 7" centers. B. THREE DIFFERENT SHELF LENGTHS 4½', 7½' and 9' each 30" deep. No small parts, set entirely by hand, top shelf can be flush. Standard racks can be joined in multiple sections of the same shelving lengths, or any combination.

★ *Can Be Built To Customer Specifications*

DESIGNED AND MANUFACTURED BY
Palmer-Shile Co.
16015 FULLERTON AVE., DETROIT 27, MICH.

Offices In Principal Cities
EXPORT OFFICE: 75 WEST STREET, NEW YORK 6, N. Y.

▲ For more details circle NED-1059 F on enclosed inquiry slip ▲

New Processes & Materials

SILICONE MOLD SPRAY
minimizes parts marking, sticking

Low surface tension necessary for maximum release of parts from molds is provided by No. 205 silicone mold release, packaged in a 12-oz aerosol can. It is used on molds of all types to minimize rejects, marking, spotting, and sticking of parts. Formulated with silicone and a chemically inert propellent, it can also be used as a water repellent on most porous surfaces. • **Sprayon Products, Inc.**, Industrial Supply Div., 2075 E. 65th St., Cleveland 3, Ohio.

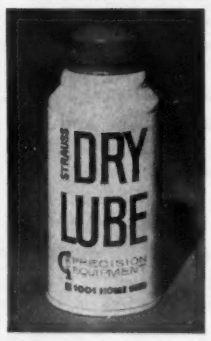
▲ For more details circle NED-1060 F on enclosed inquiry slip ▲

HIGH TEMPERATURE CEMENT
4300 and 5000° F types offered

Joining ceramics, glass, and metals are typical uses for Type A Astroceram high temperature cement which withstands over 4300° F and can be air dried. It exhibits good adhesion to metals for possible use in coating, seals, and feed-throughs. Cement can also be dried at 160 to 170° F for 1 hr. Astroceram Type B for over 5000° F must be fired to develop a bond. Providing excellent bond strength with refractories, it has low thermal expansion and high resistance to heat shock. As a sealer, mortar, casting compound, and surface coating for refractories, it is dried by raising temperature gradually to 2200° F for 30 min. • **Instrumentation Associates, Inc.**, 17 W. 60th St., New York, N. Y.

▲ For more details circle NED-1061 F on enclosed inquiry slip ▲

SPRAY-ON DRY LUBRICANT
inert, nontoxic, leaves no stains



A nonconductor of electricity, Dry Lube is suitable for lubricating such electrical equipment as relays, switches, rheostats, sockets, dials, and solenoids. Packaged in an aerosol dispenser, it provides a durable, invisible, lubricating and protecting film. Product is nontoxic, inert, leaves no unsightly stains, can be buffed to a high gloss, and is suited for indoor or outdoor use. Active ingredient is a fluorocarbon which renders it noncorrosive. Other uses include photographic equipment, precision tools and instruments, drawers, doors, locks, and zippers. Six-ounce can sells for $1.49. • **Strauss Photo Technical Service, Inc.**, 930 F St. N. W., Washington, D. C.

▲ For more details circle NED-1062 F on enclosed inquiry slip ▲

PERMANENT
LEAKPROOF
SIMPLY APPLY and FORGET

That's right! One application of easy-to-apply Plastic Lead Seal lasts for the life of the connection . . . protects it against rust and corrosion during service . . . and prevents seizing and galling to insure easy disassembly at any time.

Service conditions are no trouble, either. PLS is an all-purpose compound that handles water, steam, gas, most chemicals, refrigerants, oil, gasoline and L-P gases...temperatures to 550°F....pressures to 6000 psi.

Put PLS to test on your pipe joints, screwed fittings, plugs, flanges or gaskets. We want you to try it and find out for yourself. Just send for a free sample. You'll be convinced!

Available in 4-oz. plastic tubes, 1-lb. cans (brush top or friction), 5-lb. cans, 15 and 28-lb. pails, 85-lb. drums.

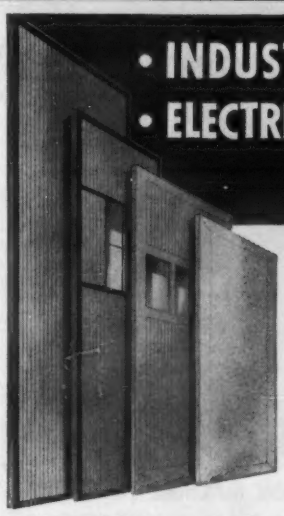
Crane Packing Company, 6411 Oakton Street, Morton Grove, Ill., (Chicago Suburb).

In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

John Crane — MECHANICAL PACKINGS · SHAFT SEALS · TEFLON PRODUCTS · LAPPING MACHINES · THREAD COMPOUNDS

CRANE PACKING COMPANY
OFFICES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-1063 F on enclosed inquiry slip ▲



• INDUSTRIAL DOORS
• ELECTRIC OPERATORS
• HARDWARE

...R-W offers the most complete line available—all are designed for top service and maximum satisfaction!

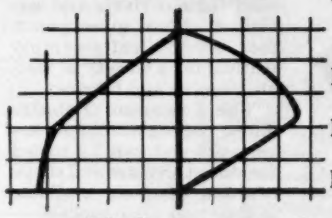
R-W manufactures a complete line of doors, door hardware, fire doors and hardware and automatic electric operators that are specifically designed to economically meet the rugged demands of industry . . . and to fulfill these demands for years to come. Provides one dependable source for all of the equipment necessary to fill a door opening . . . components are *"made for each other"* to provide a perfect match. For the ultimate in quality, service, dependable operation and over-all economy—*make your industrial door installations 100% R-W Equipment.* Write today for free catalogs.

RICHARDS-WILCOX MFG. CO.
435 W. THIRD STREET • AURORA, ILLINOIS • Branches in Principal Cities

▲ For more details circle NED-1064 F on enclosed inquiry slip ▲

Newest Addition to STEWARD'S MAGNET FAMILY

ORIENTED F-500
CERAMIC PERMANENT MAGNET



BH=3.5 x 10^6 G.Oe
Hc=2000 Oe
Br=3900 G

High Energy Product For:

APPLICATIONS: • LOUDSPEAKER MAGNETS • MAGNETIC SEPARATORS AND OTHERS REQUIRING HIGH BH PRODUCT AND COERCIVITY.

Look to D. M. Steward Manufacturing Company for all of your Ceramic Magnet requirements.

Write for F-500 brochure to:

D. M. STEWARD MFG. CO.
3620 JERROME AVE. • CHATTANOOGA, TENN.

▲ For more details circle NED-1065 F on enclosed inquiry slip ▲

RCA RADIO . . . FIRST CHOICE OF THE LEADERS

Get latest facts about 2-Way Radio for Industrial use

Mail coupon for complete information on RCA Mobile and Personal Radio Equipment

RADIO CORPORATION OF AMERICA, Communications Division Dept. H-329, Building 15-1, Camden, N.J. In Canada: RCA VICTOR Company Limited, Montreal

Please send me FREE literature as follows:
- ☐ RCA Personalfone "Belt" Radio (shown above)
- ☐ RCA Transistorized "LD" (low battery drain) Mobile Radio
- ☐ Have RCA Communications Specialist contact me to explain today's best value in 2-way radio.

NAME_____ TITLE_____
COMPANY_____
ADDRESS_____ TELEPHONE_____
CITY_____ ZONE_____ STATE_____

RCA Tmk(s) RADIO CORPORATION of AMERICA
COMMUNICATIONS DIVISION • CAMDEN, N.J.

▲ For more details circle NED-1066 F on enclosed inquiry slip ▲

NEW ...LOW COST, AUTOMATIC ALL-ELECTRIC EYELETTER

ETCO Model 103

A HIGH SPEED PRODUCTION MACHINE FEATURING:

1. For all makes of eyelets, from smallest to 3/8" diameter.
2. Extra large throat depth.
3. Easily interchangeable tracks.
4. $385. complete.
5. Electrical clutch release.
6. Simplified eyelet release.
7. Fast, continuous feeding.
8. Heavy cast frame, attractive finish.

Send for ETCO Bulletin 103

for Printed Circuits, Component Assemblies, Cloth & Leather Assemblies

EYELET TOOL COMPANY, INC.
236 BROADWAY
CAMBRIDGE, MASSACHUSETTS

For more details circle NED-1067 F on enclosed inquiry slip

for quick economical fastening use TOWNSEND TUBULAR RIVETS AND MACHINES

The combination of Townsend tubular rivets and setting machines gives you a fast, economical assembly method for a variety of metals, plastics and fabrics.

The Townsend Tubular Rivet Setting machines are versatile and can be tooled for almost any size and shape of work. They are available in floor and table models.

Townsend tubular rivets are available in steel, brass, copper, aluminum and other special materials. Quick delivery is assured.

For information write to **Townsend Company, Engineered Fasteners Division, P.O. Box 71-G, Ellwood City, Pennsylvania.**

For more details circle NED-1068 F on enclosed inquiry slip

UTICA

NEW PRODUCTS DEMAND NEW TOOLS!

We not only keep up, we keep ahead of your needs for special hand tools. Already produced and stocked by Utica are the important new pliers, wrenches and other special hand tools that you will need. All have been proved through application. All are backed by famous full guarantee. Get the full story from your Utica distributor or write for our latest catalog.

Utica Drop Forge & Tool Division
Kelsey-Hayes Company, Utica 4, N. Y.

tools the experts use!

For more details circle NED-1069 F on enclosed inquiry slip

New Literature & Catalogs

Extruded Stainless Shapes

H. M. Harper Co.—"Harper Extruded Shapes—A New Concept" is a 16-page guide for design and metallurgical engineers. Pictures and application data on 38 different extruded stainless steel shapes are included, as are specifications on a wide range of metals regularly extruded.

For more details circle NED-1070 F on enclosed inquiry slip

Lightweight Gas Turbines

General Electric Co.—Ultra-lightweight, compact gas turbines rated from 75 to 20,000 hp are introduced in 8-page Bulletin GEA-7083. Turbines are designed for various applications, including fluid and gas pumping, electric power generation, and marine and vehicular propulsion.

For more details circle NED-1071 F on enclosed inquiry slip

Fluid Meters

Bailey Meter Co.—Operation, ranges, and installation requirements of line of fluid meters are considered in 8-page Bulletin 20. Meters operate on the relationship which exists between differential pressure and fluid velocity. Integrators, compensators, and primary elements are also discussed.

For more details circle NED-1072 F on enclosed inquiry slip

Molybdenum Products

Climax Molybdenum Co.—24-page booklet "Climelt Molybdenum and Molybdenum-Base Alloys" gives details on various sizes, forms, conditions of use, tolerances, weights, and methods of identification of Climelt products available for commercial use. Products are well suited to electrical, electronic, missile, aircraft, nuclear energy, metalworking, chemical, glass, and other uses.

For more details circle NED-1073 F on enclosed inquiry slip

Thermocouple Assemblies

Minneapolis-Honeywell Regulator Co., Industrial Div.—40-page Catalog G100-1 describes over 100 complete thermocouple assemblies in detail, listing lower prices, specifications, and application data. Types are available for practically any need. Technical section deals with calibration, wire size, element length, protecting tubes, wire size and resistance tables, and related information.

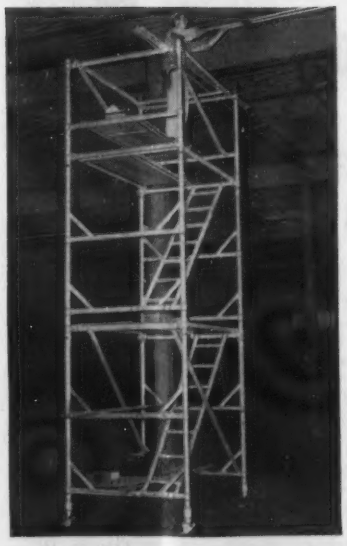
For more details circle NED-1074 F on enclosed inquiry slip

Bronze Bearings, Bushing & Bar Stock

American Crucible Products Co.—All information needed to select and specify the proper bronze bearing, bushing, or bar stock for a given application is contained in 16-page bulletin entitled "Promet Bronze." Chemical composition and mechanical properties are given on brass and bronze casting alloys and magnesium and aluminum bronze alloys. Data are included on babbitt metal, running clearances, effective lubrication, and various types of oil grooving.

For more details circle NED-1075 F on enclosed inquiry slip

WERNER



ONE MAN SET-UP ...IN MINUTES

Safe, secure stairway scaffold—moves easily on ball bearing lock casters. Adjusts to uneven floor conditions. Folds into compact unit for easy transporting and convenient storage.

Available in stairway, span, and bridge types, bearing the UL label.

ALDEK ALUMINUM SCAFFOLDING

R. D. WERNER CO., INC. • 1013 OSGOOD RD. • GREENVILLE, PA.

For more details circle NED-1076 F on enclosed inquiry slip

Put your finger on it FAST... with the Wassell TWIN CONTROLS

Produc-Trol® will give you delivery dates, parts supply, project status.

Vu-Board will tell you if the machines are loaded to meet those dates.

There's no digging in files or calling for reports . . . The facts are right in front of you to foresee problems in time to solve them.

For more information, write:

WASSELL ORGANIZATION, INC.
DEPARTMENT N-6 • WESTPORT, CONNECTICUT • EST. 1935

For more details circle NED-1077 F on enclosed inquiry slip

carries a complete stock of GAUGE GLASS and CYLINDERS

Need Gauge Glass or Cylinders in a hurry? Then write, wire or phone Swift for immediate delivery.

We have a complete stock of Pyrex Tubular Gauge Glass and Cylinders on hand for chemical, pharmaceutical or industrial applications. Supplied in any length or finish from 2 mm. O.D. to 7" O.D.

SWIFT Glass Division
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

For more details circle NED-1078 F on enclosed inquiry slip

CONNEAUT plastic EXTRUSIONS

Meet Difficult Design Specifications

Consult Our Engineers On Your Plastic Parts Requirements

Conneaut Rubber & Plastic Company has the experience, technical staff and complete production facilities to give you fast, economical "package" service on plastics compounding and extruding to meet your requirements.

GET THIS FREE BULLETIN

Contains complete details on Conneaut's *custom* plastics compounding and extruding, free on request, or send your prints for quotation and your problem for analysis and recommendation. No obligation, of course.

481-D

CONNEAUT RUBBER & PLASTIC COMPANY
Conneaut, Ohio

For more details circle NED-1079 F on enclosed inquiry slip

Exclusive
POW-R-GRIP*
Ridges!

Anchor anything to concrete...permanently

BULLDOG
Gold Digger®

*POW-R-GRIP ridges around the shank of the BULLDOG "Gold Digger" drill/anchor permit *faster, easier drilling* into hardest concrete, brick or stone. Once the drill/anchor is set, these powerful ridges, plus the proven expansion principle of "Gold Digger" drill/anchors, assure greatest holding-power under all job and climatic conditions. Only POW-R-GRIP ridges assure "the grip that never fails".

Send for full details today! *Free* specification and application booklet on BULLDOG "Gold Digger" drill/anchors available on request.

BULLDOG DIVISION (Formerly Polis Manufacturing Co.)
GREGORY INDUSTRIES, INC.
102-22 Toledo Avenue • Lorain, Ohio

For more details circle NED-1080 F on enclosed inquiry slip

STYLE A
2,000 lbs. cap. for reels up to 28" wide. Weight 60#.
PRICE $46.50
f.o.b. Cincinnati

STYLE B
4,000 lbs. cap. for 1 reel up to 48" wide; or for 2 reels up to 24" wide each. Weight 110#.
PRICE $84.50
f.o.b. Cincinnati

• Special sizes on request.

ROLL-A-REEL 4626 Reading Road Cincinnati 29, Ohio

For more details circle NED-1081 F on enclosed inquiry slip

Machine part broken?

. . make a new one fast with

STRESSPROOF® all-purpose

steel bars . . for maintenance

- STRESSPROOF needs no heat treating!
- Available in sizes up to 4" rounds.
- It machines fast . . rated at 83% of B1112.
- It's strong (100,000 psi yield) . . and it wears better.
- It costs less than heat treated in-the-bar alloys.
- You can make most of your parts from just one stock of STRESSPROOF.

Ask for 24-page booklet, "How to make your own machine and repair parts quicker and easier."

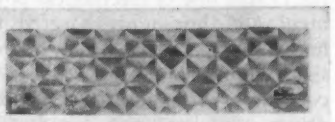
La Salle STEEL CO.

1478 150th Street, Hammond, Indiana

For more details circle NED-1082 F on enclosed inquiry slip

New Processes & Materials

DECORATIVE PLATE GLASS for designing into products



Diamond - shaped patterns of vertical and horizontal lines in Galaxy decorative plate glass reflect light in different ways according to the angle from which it is viewed. Light and dark patterns appear to shift and move as the viewer moves. Glass is usable in various products. It can be fabricated in any flat shape with lines printed in any color. • **Lancaster Glass Corp.**, Lancaster, Ohio.

For more details circle NED-1083 F on enclosed inquiry slip

FUEL OIL SLUDGE SOLVENT has soot destroyer, rust inhibitor

When added to No. 4, 5, or 6 fuel oil, Triple-X-100 sludge solvent-soot destroyer and rust inhibitor puts bottom sludge into a compatible solution which mixes freely with oil bodies. It also blends with the oil and lowers the ignition point of soot to a safe 650° F. The rust inhibitor prevents corrosion and pitting of the tank surface. Initial use is at rate of 1 gal for each 1000 gal of oil; subsequently rate is 1 qt per 1000 gal. Application can be manual or through solenoid controlled meters. • **Parke-Hill Chemical Corp.**, 29 Bertel Ave., Mt. Vernon, N. Y.

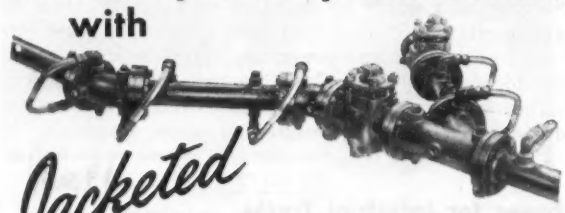
For more details circle NED-1084 F on enclosed inquiry slip

REUSABLE PLASTIC ADHESIVE sticks to any dry surface

Mounting, holding, anchoring, posting, and other tasks are simplified with Delkote Solid Tak. This re-usable plastic adhesive is packed in clear plastic box which contains two 4¼ x 2¼ x ¼-in. blocks of the material and retails for 89 cents. It will adhere to any dry surface and is removed without tearing or leaving gummy residue. Uses include mounting drawings or displays on walls or other areas; positioning and temporarily holding parts for welding, soldering, or assembly; removing dust and lint; and anchoring machines and equipment. It is unaffected by water, temperature changes, or age. • **Delkote, Inc.**, Box 1335, Wilmington 99, Del.

For more details circle NED-1085 F on enclosed inquiry slip

Speed Handling of Heavy Sticky Materials with



Jacketed Piping, Valves, Fittings

The best method for making heavy, viscous materials flow more freely is to apply heat—and the best way to apply heat is through Parks-Cramer jacketed piping, valves and fittings. It is axiomatic that the greater the heating surface, the faster the heating; and, the less viscous the product becomes, the easier it is to handle. These conditions are met by full jackets completely surrounding all product wetted surfaces—thus utilizing maximum heat transfer area.

The largest selection of jacketed piping and accessories is available in materials ranging from semi-steel (in stock) to carbon and alloy steel, bronze, aluminum, Ductile Iron, Ni-Resist, and plastic lined in sizes from 1¼" to 8".

Send for Catalog 356 for details.

Parks-Cramer Co.
PROCESS HEATING DEPARTMENT
FITCHBURG 3, MASSACHUSETTS

For more details circle NED-1086 F on enclosed inquiry slip

HILD
TRANSFERABLE HEAD VACUUMS

Speed-up maintenance with Hild transferable head vacuums — ideal for all types of heavy volume or bulk vacuuming, including furnace, flue, and air conditioning duct cleaning. Powerful 1½ h.p. motor fits any 10, 15, 30, or 55 gallon drum — transfers from drum to drum in seconds for quick cleaning and water removal. Motors can be converted to blower or "Strap-Bak-Vac" for vacuuming in hard to reach areas.

Model 455
55 Gal. Vacuum
1 h.p

Model 655
55 Gal. Vacuum
2-2/3 h.p.

HILD FLOOR MACHINE COMPANY
1217 Washington Blvd. • Chicago 7, Ill.

Write today for complete information.

For more details circle NED-1087 F on enclosed inquiry slip

"Sounds for Safety"

get instant action

with Falcon® self-powered Horns & Systems

Popular Falcon Freon-Powered Horns give you clear, sharp blasts for all routine and emergency signaling. Up to 300 loud, long-range blasts from disposable 15-ounce Aerosol-type power container.

Units are listed by Federal Civil Defense, and used in many plants for a multitude of purposes.

Safe and compact — 6 portable models in a wide size and price range to answer your individual needs. Large capacity units, permanently installed units, and complete systems also available.

WRITE for particulars — and free, informative "Sounds for Safety" folder! Dept. ND

Falcon® ALARM CO., INC.
SUMMIT, NEW JERSEY

For more details circle NED-1088 F on enclosed inquiry slip

Southern SPECIALIZES IN

STANDARD FASTENERS FOR METAL

Whether your fastener requirements call for steel, brass, silicon bronze, aluminum or stainless steel, Southern Screw specializes in first-quality standard fasteners for metal applications.

If your specifications are for cadmium, zinc or nickel plated finishes, Southern's own plating department can plate your order overnight if desired. This service can mean substantial savings in time and money, eliminating extra expense where fasteners are made in one location and shipped elsewhere for plating. More important, Southern plating assures your order of constant quality control from manufacture through shipment.

Order today from Southern Screw's inventory of 1,500,000,000 quality fasteners. The specials you need may be in our stock as standards. For super service on fine fasteners contact your nearest Southern distributor, or write Southern Screw Company, P. O. Box 1360, Statesville, North Carolina.

Manufacturing and Main Stock in Statesville, North Carolina.
Warehouses: New York • Chicago • Dallas • Los Angeles

Machine Screws & Nuts • Tapping Screws • Stove Bolts • Drive Screws • Carriage Bolts • Continuous Threaded Studs • Phillips, Slotted and Hex Head Styles

Southern SCREW COMPANY

For more details circle NED-1089 F on enclosed inquiry slip

KESTER SOLDER

KESTER SOLDER's highest standards of manufacture and use of virgin metals exclusively are behind its almost single-minded acceptance by industry. Such acceptance has been 60 years in the making . . . and we don't take its responsibility lightly.

WRITE *today for Kester manual "SOLDER... Its Fundamentals and Usage." Free.*

KESTER SOLDER COMPANY

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Anaheim, California, Brantford, Canada

OVER 61 YEARS' EXPERIENCE IN SOLDER AND FLUX MANUFACTURING

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MILLING MACHINES by BARKER

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PEDESTAL • BENCH

VERSATILE—IN USE EVERYWHERE

For production milling of small parts fast. Efficiently operated by unskilled help.

Screw Feeds Extra

P. M. Model $385.00 as Shown

BARKER Model A-M Milling Machine

A heavier Barker Mill with larger working surfaces for machining bigger parts. Takes # 30MM standard adapters. Will accommodate most standard indexing heads, vises and special accessories.

A.M. Model Wgt. 650 lbs. $730.00 Less Base

Write for Details

Base $130.00

Dual head models available. Write.

BARKER ENGINEERING CO.
DIVISION
THE F. HOHLFELDER CO.
26470 Lakeland Blvd. • Cleveland 32, Ohio

▲ For more details circle NED-1091 F on enclosed inquiry slip ▲

now NEW AVERY GOLDEN *perma-grip*® LABELS

the tightest sticking pressure-sensitive label on the market!

with 300% greater holding power!

Now you can save time, cut costs and apply Avery self-adhesive pressure-sensitive Labels on applications once considered "too tough" for pressure-sensitive labeling!

Golden PERMA-GRIP Labels stick better, hold tight—yet are easily applied to a variety of surfaces, either flat, rounded, concave or curved—to glass, plastic, metal, wood, film or paper. Label corners won't curl, or peel—they're actually bonded to the surface—yet these rugged labels can be easily stripped from their backing tape at any time—even at temperatures ranging from —70° to 350°F.

25th Anniversary 1935-1960

Write for FREE SAMPLES — and try them on the surface you want PERMANENTLY Labeled!

☐ Send us samples of AVERY'S new GOLDEN PERMA-GRIP labels.

AVERY LABEL COMPANY, Div. 102
117 Liberty St., New York 6
608 S. Dearborn St., Chicago 5
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Name_____
Company_____
Street_____
City_____ Zone____ State____

★ Have you seen Avery's new pressure-sensitive Metallics for decorative trim, panels and identification plates?

▲ For more details circle NED-1092 F on enclosed inquiry slip ▲

New Literature & Catalogs

Guide to Power Transmission

New as well as established products which comprise the Dodge line of mechanical power transmission equipment are thoroughly covered in 468-page Engineering Catalog D-60. Well indexed book contains design, engineering, and application guidance on drives, couplings, bearings, pulleys, sprockets, chain, fluid drives, clutches, and hundreds of related products. General engineering section deals with mechanical power transmission reference data. This comprehensive book is being presented on a selective basis to key personnel of industrial concerns, mainly through authorized Dodge dealers. Requests must be made on company letterhead to Dodge Mfg. Corp., 600 S. Union St., Mishawaka, Ind.

▲ For more details circle NED-1093 F on enclosed inquiry slip ▲

Storage Cabinets

Vidmar, Inc.—Some of the advantages provided by Vidmar storage cabinets include space savings of 50-90 per cent, protection of valuable parts, visual inventory control, interchangeability of cabinet drawers, safe loading of up to 400 lb per drawer, and positive protection against pilferage. A 4-page bulletin describes these cabinets.

▲ For more details circle NED-1094 F on enclosed inquiry slip ▲

Office Planning Guide

Royal Metal Mfg. Co.—How to utilize "space engineering" in office planning for optimum return on administrative overhead costs is subject of illustrated brochure "The Right Way to Office Planning." Discussed are methods to obtain increased work flow efficiency, locate extra space within current floor area, and the use of modular office furniture components and free-standing partitions.

▲ For more details circle NED-1095 F on enclosed inquiry slip ▲

How to Judge Engine Quality

Caterpillar Tractor Co., Engine Div.—"Judging Engine Quality" is title of 28-page manual which emphasizes the features of various engine designs which provide top performance with minimum cost. It discusses design, workmanship, and material; reliability; cost of operation; parts and service availability; and trade-in or resale value. Cutaway illustrations compare two and four-cycle operation, multiple and single orifice injection valves, precombustion chamber and direct injection, and other important items relating to engine selection.

▲ For more details circle NED-1096 F on enclosed inquiry slip ▲

Rolling Doors

Kinnear Mfg. Co.—Detailed specifications, application data, and design features are presented in 36-page illustrated Bulletin 104 on rolling steel and aluminum doors. Types detailed are service doors, fire doors and shutters, bifold doors (steel or wood), rolling grills, counter shutters, and sectional overhead doors (steel or wood).

▲ For more details circle NED-1097 F on enclosed inquiry slip ▲

Heating & Cooling Controls Manual

Powers Regulator Co.—"Manual on Steam & Water Service" is a guide for selection of automatic heating and cooling controls. Workable systems to solve certain control problems are given. Applications covered include hot water, fuel oil heaters, heat exchangers, jacket water cooling, process hot water, pressure reducing, and two-temperature hot water systems.

▲ For more details circle NED-1098 F on enclosed inquiry slip ▲

Power for Industrial Trucks

Ready-Power Co.—Gasoline, diesel, and LP-gas driven electric generators are the heart of Ready-Power units which can be installed quickly and easily in electric industrial trucks of all types and makes. These versatile power units combine economical full-time engine power with the flexibility of electric truck operation. These compact power packages are also adaptable to cranes, industrial locomotives, and materials handling vehicles. Get 12-page Bulletin 99A.

▲ For more details circle NED-1099 F on enclosed inquiry slip ▲

Fluid Drives

American Radiator & Standard Sanitary Corp., American-Standard Industrial Div.—Gyrol adjustable-speed fluid drives are available in nine sizes with speeds to 1800 rpm and capacities of 100 to 3500 hp. Complete flexibility of application and control is afforded. Design and performance data are given in 20-page engineering Bulletin A-719.

▲ For more details circle NED-1100 F on enclosed inquiry slip ▲

. . . you can save plenty, on die-cut non-metallic washers from Russell

A low, low price isn't your only bonus when you specify Russell. In addition, you get controlled quality which eliminates unnecessary production and inspection costs. Ford, Bendix, General Electric, Westinghouse depend on Russell's "on-time" delivery. Want proof?? Let us quote . . . rubber, cork, plastic, asbestos, felt, cork and rubber, sponge, paper, coated fabrics . . . any quantity. Thousands of stock dies available.

Russell GASKET COMPANY
7424 Bessemer Ave. • Cleveland 27, Ohio • Call DI 1-5508
"Die-cut, non-metallic washers, gasket and seals"

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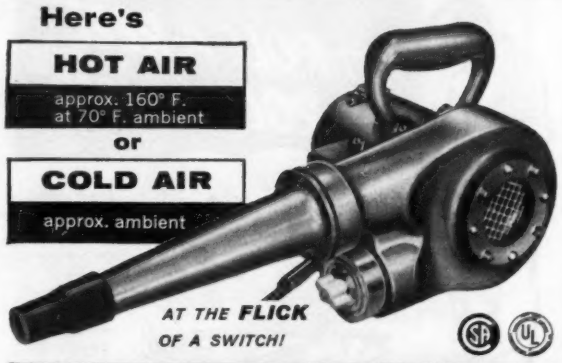
Here's

HOT AIR
approx. 160° F. at 70° F. ambient
or
COLD AIR
approx. ambient



AT THE FLICK OF A SWITCH!

CLEMENTS Cadillac® MODEL L7 QUIK-HEAT HOT OR COLD AIR BLOWER

Portable, practical for drying insulation in motors, cables, electronic equipment, delicate switchboards, terminal boards, newly dyed textile samples . . . you name it! Ideal for drying out rubber boots . . . increases worker morale. With heating element off, you enjoy the extra advantage of a regular blower for cleaning with approximately room temperature air.

DEPENDABLE, ECONOMICAL

ASK FOR BULLETIN

Use it wherever warm dry air is required.

SINCE 1910

Industrial Products Division
CLEMENTS MFG. CO.
6627 South Narragansett Ave., Chicago 38, Illinois

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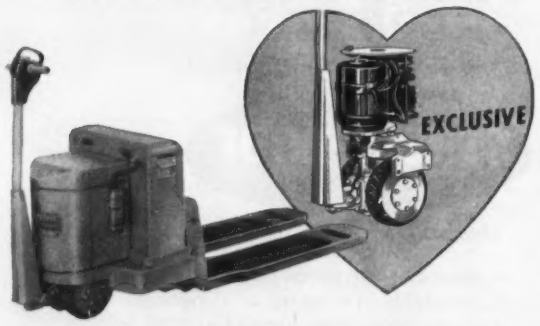
HEART OF THE HydroLectric
THE DYNA-DUAL POWER UNIT



Compare the Hydrolectric features with any other "Driver Lead" Lift Truck. The Hydrolectric quality of construction merits your inquiry. Two driving wheels instead of one — 50% easier steering — ease of maintenance.

NOTE: The Dyna-Dual Power Unit is interchangeable on all models.

A TRUCK FOR EVERY PURPOSE AND MATERIAL

LIFT TRUCKS, INC.
CINCINNATI 14, OHIO

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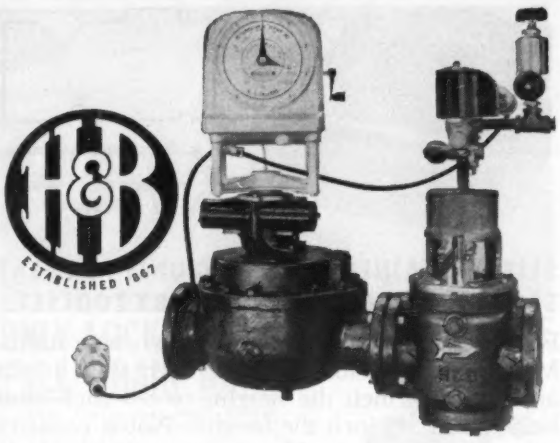
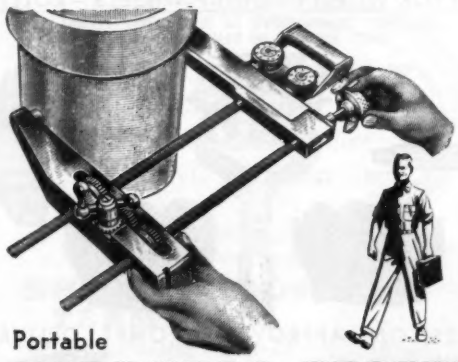


JACKETED METER . . . with micro adjustment and automatic resetting

For the proper handling of heavy liquids, all meters, pumps, pipes and valves handling such materials should be jacketed. In any liquid processing operation where the maintenance of uniform temperature in the process pipes is necessary, an H & B jacketed system will assure dependable, economical production. Write for Bulletin Fl-56.

HETHERINGTON & BERNER INC.
725 KENTUCKY AVENUE INDIANAPOLIS 7, INDIANA

▲ For more details circle NED-1104 F on enclosed inquiry slip ▲



Portable
HARDNESS TESTER
gives "on the spot" Rockwell readings

Test materials, tools, or pieces in production "right there, right now!" Save the work of taking samples to the test bench, save the cost of sectioning, eliminate errors due to need for conversion of other scales to Rockwell hardness numbers. Large dial markings are in standard red and black for quick identification of Rockwell scales, A, B, C, D, E, F, G, H and K — all available as standard. Uses standard indentors, loads — no scale conversions required.

FOR A DEMONSTRATION, WRITE Dept. NED-660

Riehle TESTING MACHINES
A DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILL.

▲ For more details circle NED-1105 F on enclosed inquiry slip ▲

Witt Roller Cans

Standard straight side, deep roll corrugated Witt cans with caster supports riveted to the solid beaded bottom bands and 2" ball bearing casters (iron or neoprene). Designed for easy moving of waste, small parts or other material in loads up to 300 lbs. Available with plain body for dry food storage.

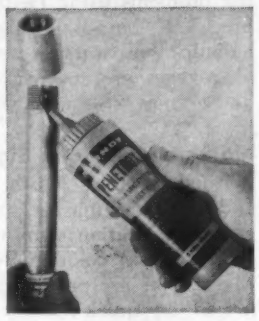
WITT Cans

THE WITT CORNICE COMPANY
4454 Steel Place, Cincinnati 9, Ohio

▲ For more details circle NED-1106 F on enclosed inquiry slip ▲

New Processes & Materials

ALUMINUM CONDUIT LUBRICANT
eases installation, protects joints



Light application of Penetrox aluminum conduit lubricant facilitates tightening, lessening the force which might damage threads. It makes loosening easy and moisture-seals the joints. Compound also prevents galvanic corrosion of aluminum - to - steel joints in damp locations. Lubricant is packaged in an 8-oz polyethylene squeeze bottle with pointed spout. • **Burndy Corp.**, Norwalk, Conn.

▲ For more details circle NED-1107 F on enclosed inquiry slip ▲

SEALING TAPES
reinforced with glass yarns

Glass yarns reinforce two new asphalt, laminated, unidirectional sealing tapes. No. 300 Tuf-Tape is reinforced in cross-machine direction only, i.e., with glass yarns running across the tape. It is suited for sealing telescopic cartons and similar application. No. 200 Tuf-Tape features lengthwise yarn reinforcement and is intended for center sealing of cartons, encapping of large or small bundles, and other uses. Free samples are available. • **Minnesota Mining & Mfg. Co.**, Mid-States Gummed Paper Div., 6850 S. Harlem Ave., Bedford Park, Ill.

▲ For more details circle NED-1108 F on enclosed inquiry slip ▲

FLUORESCENT ENAMEL
offered in self-spray dispenser

Highly visible Pyralux fluorescent enamel for emergency and maintenance safety marking is readily applied with Jet-Pak aerosol spray dispenser. Unit consists of can of propellant, an unbreakable plastic spray head, and a glass jar for the thinned enamel. Yellow, vermillion, orange, and red fluorescent colors are usable for stencil marking or spraying on surfaces, machines, or objects for high visibility. Because the enamels reflect up to four times as much light energy as conventional colors, they are brilliant even in poor light. For maximum durability, enamels should be sprayed over a white undercoat and then top-coated with Pyralux Clear. • **E. I. du Pont de Nemours & Co.**, Finishes Div., Wilmington 98, Del.

▲ For more details circle NED-1109 F on enclosed inquiry slip ▲

THE WELLSAW 400

Save time, do a better job more safely with the Wellsaw 400—the first power saw designed to do just about anything you can do with a hand saw. The Wellsaw is ruggedly built to industrial quality standards for tough day-in, day-out service on all kinds of jobs. Safer to use than any other power saw—light in weight and big in capacity. Write for descriptive bulletin or ask your Wells industrial distributor to let you try a Wellsaw 400.

Wells
WELLS MANUFACTURING CORPORATION
SAW SPECIALISTS SINCE 1920
1313 Harding St. • Three Rivers, Michigan

▲ For more details circle NED-1110 F on enclosed inquiry slip ▲

HIGH SPEED • POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY AIR REGULATOR
Regulates pressures 0 to 140 lbs.
No. 622 $7.25

SPEEDY AIR FILTER
Assures clean, oil-free air.
No. 140 $4.00

SPEEDY UNIT
Production spray unit with Ext. Mix Gun.
No. 705 $26.50

Prices slightly higher in the West

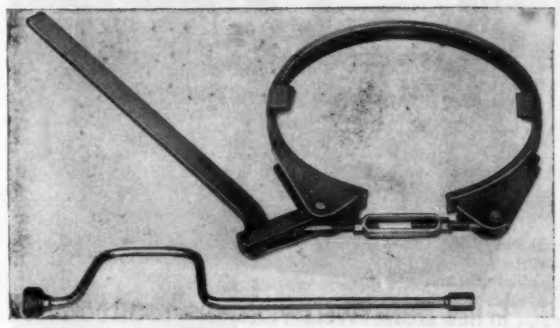
Order from Your Supplier or Write for Air Tool Catalog

W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

▲ For more details circle NED-1111 F on enclosed inquiry slip ▲

DRUM PARTS CLOSING TOOL
Speeds Open Head Drum Closures



A simple, quick-acting closing tool, so efficient, so easy-to-use it will speed closure of all types of open head drums—especially the outstanding locking rings developed by Drum Parts, Inc. These include:

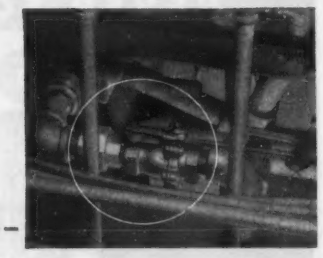
PLAIN LUG RINGS • OVERLAPPING RINGS
WELD NUT RINGS

Complete Catalog illustrates and gives full details for closing tools, rings and accessories to fit all drum closing needs. Send for your copy today.

DRUM PARTS, INC.
10311 Meech Ave. Cleveland 5, Ohio

▲ For more details circle NED-1112 F on enclosed inquiry slip ▲

Trouble-Free thru 2 Years of Tough Service...
Rockwood Ball Valves



Used to test automatic laundry washing machines for water load, leakage and rinse cycle selections, these 1½" Ball Valves are opened and closed approximately 50 times a day. After two years and 36,500 cycles, Rockwood Ball Valves are still leakproof and require no maintenance.

You, too, can depend on this same efficiency with Rockwood Ball Valves that are designed and engineered to give longer, trouble-free service.

Rockwood Ball Valves are today giving outstanding service in oil refineries, food, paper, textile, chemical and rubber plants. Valves are available in pipe sizes from ½" to 10" . . . 300 lbs. working pressure. Tested and listed by Underwriters' Laboratories, Inc. For further information regarding your use of Rockwood Ball Valves write to ROCKWOOD SPRINKLER COMPANY, A Division of The Gamewell Company, 880 Harlow St., Worcester 5, Massachusetts.

ROCKWOOD BALL VALVES

Distributors in principal industrial areas

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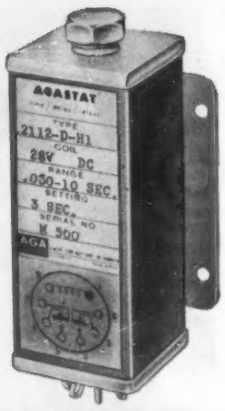
DESIGN TIMING RELIABILITY INTO YOUR CIRCUITS *specify...*



NEW MINIATURE AGASTAT®

time/delay/relays

- *Recycling* virtually instantaneous—less than .020 seconds
- Unaffected by Voltage fluctuations (from 18 to 32 volts DC)
- Repeat Accuracy ±5%

This new AGASTAT meets the environmental requirements of MIL-E-5272A. Built to withstand the rugged conditions of missile and aircraft applications. Lightweight—less than 15 ounces. Space saving—4⅝" tall . . . 1 13/16" wide . . . 1½" deep. Adjustable, with time delays from .030 to 120 seconds. Choice of operation for energizing or de-energizing. For complete specifications, write Dept. A37-65.

ESNA **AGASTAT TIMING INSTRUMENTS**
ELASTIC STOP NUT CORPORATION OF AMERICA
1027 NEWARK AVENUE, ELIZABETH 3, NEW JERSEY

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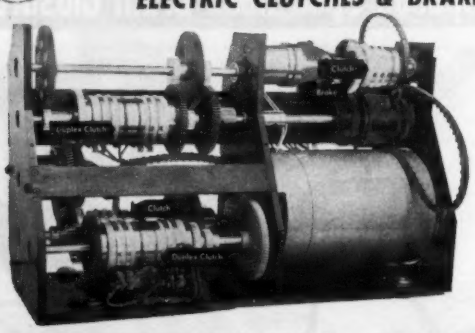
Simplatrol
ELECTRIC CLUTCHES & BRAKES



. . . In New HONEYWELL Visicorder® OSCILLOGRAPH

The new Honeywell Model 1012 Visicorder Recording Oscillograph relies on two sets of Simplatrol Duplex clutches, two Simplatrol clutches, one Simplatrol brake. This compact, swift, sure and silent "team" meets an extremely high speed and accuracy standard.

Every time, Simplatrol meets the challenge. In Simplatrol units the patented diaphragm makes the difference . . . it's the only moving part.

Find out how Simplatrol can solve your clutching and braking problems. Write today for literature on Simplatrol large, miniature and small and fixed field clutches and brakes.

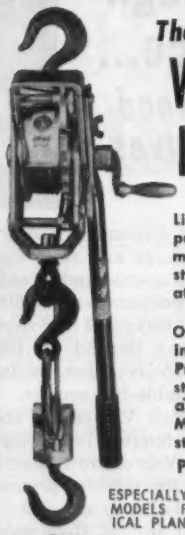
Write today for free literature.

Simplatrol products corp.
24-6 SALISBURY ST., WORCESTER, MASS.
198-0 *Representation in Key Industrial Areas*

▲ For more details circle NED-1115 F on enclosed inquiry slip ▲

IMITATED BUT NEVER EQUALED

MODEL 3000-30
With Cable
Return Crank
1½ TON CAP.
30 FT. AIRCRAFT CABLE
Weight 14 lbs.
Price $56.20



The LUG-ALL
WINCH HOIST

Lifts—lowers pulls—stretches moves—tightens straightens & bends at any angle!

Overstrength aluminum alloy frame. Preformed high-strength flexible aircraft cable. Many other outstanding features.

Priced From $29.50

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CATALOG
Showing
16 MODELS
29
CAPACITIES
750 TO
4000 LBS.

ESPECIALLY CORROSION-PROOFED MODELS FOR USE IN CHEMICAL PLANTS, MINES, ETC.

THE **LUG-ALL®** COMPANY
HAVERFORD 8, PA.

LUG-ALL HOISTS HAVE BEEN USE-TESTED SINCE 1949

▲ For more details circle NED-1116 F on enclosed inquiry slip ▲

New Literature & Catalogs

Shortcuts to Gaging

Hi-Precision Grinding, Inc.—New approaches to gaging problems using Deltronic tenth plug gage kits and precision Micro-Ball gage kits are illustrated in 4-page bulletin. Advantages and available sizes of ball and plug gages are covered.

▲ For more details circle NED-1117 F on enclosed inquiry slip ▲

Markers, Labels & Signs

Anodyne Inc., North Shore Nameplate Div.—Pipe and electrical markers, numerals, letters, safety signs, and identification signs which are available from stock are shown in color in 24-page catalog. These Speedy Marx items are printed on waterproof Vinyl cloth, furnished on quick-release dispensing cards, and backed with instant-stick adhesive.

▲ For more details circle NED-1118 F on enclosed inquiry slip ▲

Traffic Marking Techniques

Trafficaide Corp.—Details for marking traffic lanes and storage areas in plants and warehouses, route directions, warnings, and parking spaces are pictured in 4-page folder. They are marked with an extruded vinyl strip that is reflective and readily bonded to the pavement with its adhesive backing.

▲ For more details circle NED-1119 F on enclosed inquiry slip ▲

Thin-Sectioned Ball Bearings

Kaydon Engineering Corp.—Installation drawings in 28-page Engineering Bulletin S-112 show how Reali-Slim thin-sectioned, large bore ball bearings save weight, space, and cost. Twenty-three drawings include designs for transmissions, machine tools, manufacturing and assembly machines, control equipment, and clutches. Ninety standard sizes with 4 to 12-in. bore are offered in each of six series.

▲ For more details circle NED-1120 F on enclosed inquiry slip ▲

Force Feed Lubricators

Houdaille Industries, Inc., Manzel Div.—44 pages of illustrated bulletin on force feed lubricators contain basic information on principles of this type of lubrication, plus engineering data on lube viscosities. Detailed operating instructions for each type of lubricator are given.

▲ For more details circle NED-1121 F on enclosed inquiry slip ▲

Steel Storage Equipment

Alan Wood Steel Co., Penco Div.—Penco angle and T-line shelving, steel lockers, book case shelving, steel cabinets, wire basket storage units, and service truck shelving are but a few of the products covered in 8-page Bulletin DC-60 on phosphatized steel storage equipment. Dimensions and capacities are given.

▲ For more details circle NED-1122 F on enclosed inquiry slip ▲

Ultra Clean Facilities

Shielding, Inc.—"Requirements for an Ultra Clean Facility" is title of 8-page brochure which discusses products of this company which can be used for creating dust-free environment-controlled areas. Such factors as modular wall panels, nondusting materials, illumination, floor covers, air showers, pass through chambers, pressurized cabinets, temperature-humidity, air pressure, and air filtration are discussed.

▲ For more details circle NED-1123 F on enclosed inquiry slip ▲

Thermocouples

Marlin Mfg. Co.—Metallic sheathed, hard packed, oxide insulated thermocouples and extension wire are subject of illustrated Catalog 602. Integral, insulated, and exposed hot junctions are shown. Prices, dimensions, and application data are included.

▲ For more details circle NED-1124 F on enclosed inquiry slip ▲

Extra-Heavy Alloys

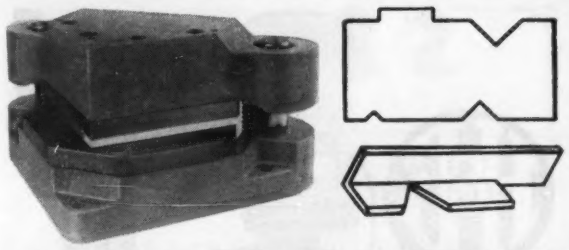
Kennametal Inc.—Kennametal heavy tungsten alloys with densities of 17 to 18.5 g/cc are covered in 8-page bulletin. Presented are properties, applications, fabrication methods, and available sizes and shapes of three grades. Engineering service and facilities available in applying the materials are described.

▲ For more details circle NED-1125 F on enclosed inquiry slip ▲

Uses for Epoxy Resins

Ren Plastics, Inc.—"The Role of the Epoxy Resin Formulator in the Plastics Industry" is title of illustrated pamphlet. Industrial applications for epoxy resins in foundries, for tooling, and in aircraft and automotive industries are related. Effective adhesive techniques are discussed.

▲ For more details circle NED-1126 F on enclosed inquiry slip ▲



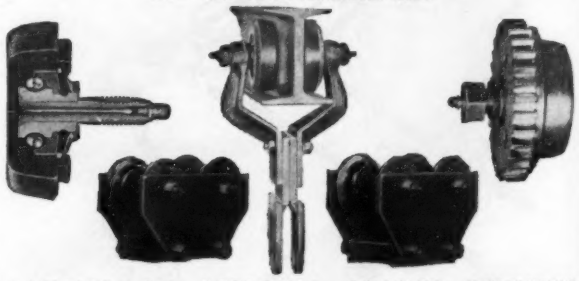
SELF CONTAINED NOTCHING UNIT FOR FLAT STOCK AND ANGLE NOTCHING BY TOOLSET.

For press brake or punch press operations. Models are available with 5½ inch shut height and 2 19/32 inch die height, or 8⅜ inch shut height and 3½ inch die height. Notch capacity up to 5 x 5 inches. Material capacity up to ¼ inch thick mild steel. Special radius or corner notches can be furnished. Write for catalog or quotation.

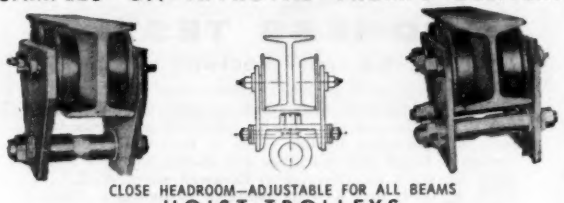
TOOLSET INC.
1413 MILITARY RD.
BUFFALO 17, N. Y.

▲ For more details circle NED-1127 F on enclosed inquiry slip ▲

PLAIN—FLANGED—GEARED—BALL OR ROLLER BEARING
CONVEYOR WHEELS—GUIDE WHEELS—ROLLERS
MACHINED CROWN—TAPER OR FLAT WHEEL TREADS
SOLID—THROUGH OR REMOVABLE AXLES



SAMPLES ON APPROVAL—PROMPT DELIVERY



CLOSE HEADROOM—ADJUSTABLE FOR ALL BEAMS
HOIST TROLLEYS
PLAIN - GEARED - SELF ALIGNING - RIGID - SWIVEL
HOSE AND CABLE TROLLEYS
CRANEWAY END TRUCKS - CHAIN CONVEYOR ASSEMBLIES
STANDARD OR SPECIAL BEAM — TRAM OR MONORAIL
NEW INSTALLATION—REPLACEMENT
Standard and Special Products by Grey Hub Are Used by Leading Manufacturers of Material Handling Equipment

GREY HUB TROLLEY WHEEL COMPANY
MANUFACTURERS SINCE 1921 INCORPORATED
17265 GABLE AVENUE DETROIT 12, MICHIGAN, U. S. A.

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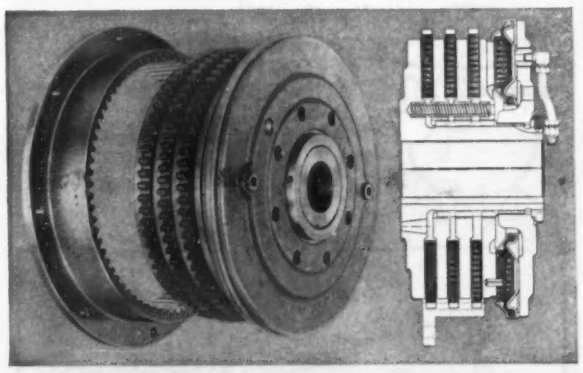

New low-cost air clutches — for *all* applications!

Three new Twin Disc PO Air Clutches! 8", 10", 11½" sizes! Triple-plate, double-plate or single-plate construction! Cost up to 40% less than comparable makes! Design features exclusive cartridge-type diaphragm of long-lasting neoprene reinforced with nylon . . . permits uniform contact—always . . . eliminates leakage! Self-compensating for wear . . . no adjustments required — ever! Narrow width permits replacement of band and drum clutches. Twin Disc now offers PO Air Clutches from 8" to 36", torque capacities to 126,600 lb.-ft.

TWIN DISC
Friction Clutches and Fluid Drives

TWIN DISC CLUTCH CO. • Racine, Wisconsin

▲ For more details circle NED-1129 F on enclosed inquiry slip ▲

ONLY LOCKE TRIPLEX MOWERS HAVE FULL CHAIN DRIVE

Your best power lawn mower value is the versatile LOCKE TRIPLEX!

It's the *only* power mower with three perfectly synchronized chain driven, counterbalanced cutting units, revolving at the same rate of speed . . . on wet or dry grass.

Locke exclusive features and dependability reduces cutting and trimming time by ½. Keeps lawns, of all sizes, neat and trim.

DRIVES: Guarded, heat treated and hardened steel sprocket roller chain.

BLADES: Heat treated and hardened alloy steel motor driven spiral type reels, mounted on ball bearings.

SINGLES . . . 25" & 30" TRIPLEXS . . . 70" & 75"
Plain or Reverse.

Send for literature. Ask your Locke Service Dealer for a full Demonstration, now.

Locke POWER LAWN MOWERS
1087 CONNECTICUT AVE., BRIDGEPORT 1, CONN.
A product of Locke Steel Chain Co.

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WRITE TODAY
for this catalog containing the complete LOCKING Terminal line

SHAKEPROOF® TERMINALS
incorporating built-in lock washers

Shakeproof Terminals combine soldering lug and famous Shakeproof Lock Washer in one easy-to-handle unit. Assure positive electrical connections. Multiple locking teeth anchor terminal to base, prevent shifting, penetrate oxidized or painted surface. Plain terminals also available. Send for complete information.

SHAKEPROOF
"Fastening Headquarters"®
DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois

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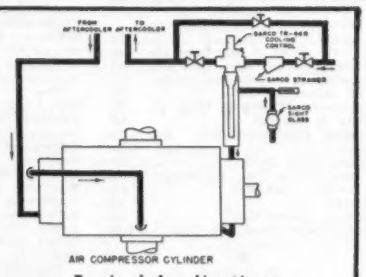
Sarco Self-Powered Cooling Control



Typical Applications
Compressors, small engines, oil coolers, water cooled rolls, dry cleaning stills, condensers, ball grinding mills, etc.

COOLING CONTROL
protects equipment and product quality

Trying to control cooling by the hit-or-miss manual method is a pretty hopeless task. It's uncertain, sometimes dangerous . . . always costly. Wastes water.

In product processing, manual cooling control results in variable product quality, heavy rejects, production slowdowns. 3944

You can end these problems with always-reliable Sarco SELF-POWERED Cooling Controls.

Inexpensive. Simple. Requires no outside power source. Packless. Easy to install by any pipefitter. For more information, write to Sarco Co., Inc., 635 Madison Ave., New York 22, N. Y.

SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA

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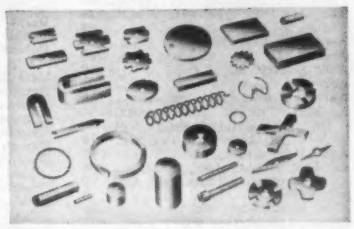
New Processes & Materials

DUCTILE MAGNET ALLOY
can be formed in intricate shapes



Possessing high coercive force and energy product values, improved Cunife copper-nickel-iron permanent magnet alloy is well suited for making close tolerance parts with strong directional magnetic properties. It is highly ductile and malleable, and can be stamped or machined to various intricate shapes. Produced for volume commercial use, Cunife is available as finished magnets formed to meet specific design requirements. It is also offered as wire and strip in extended range of sizes, shapes, and widths. • **Hoskins Mfg. Co.**, 4445 Lawton Ave., Detroit 8, Mich.

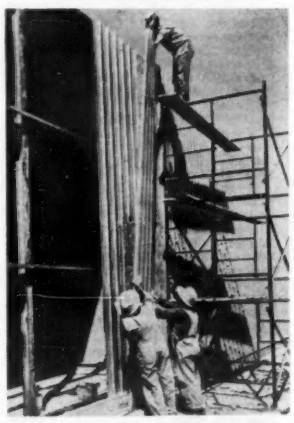
▲ For more details circle NED-1133 F on enclosed inquiry slip ▲

CORROSION INHIBITING WRAP
for copper, brass, bronze, cadmium

Chemically treated Daubrite paper for wrapping and packaging copper, brass, bronze, and cadmium products prevents tarnish and oxidation. Tests, including exposure to high humidity, temperature, sulphides, and oxygen, indicate at least two years' protection for properly packaged metals. It is suited for protecting both materials and finished products. • **Daubert Chemical Co.**, 4700 S. Central Ave., Chicago 38, Ill.

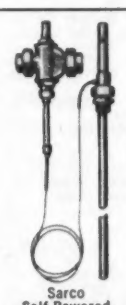
▲ For more details circle NED-1134 F on enclosed inquiry slip ▲

STEEL SIDEWALL PANELS
insulated type assembled on the job

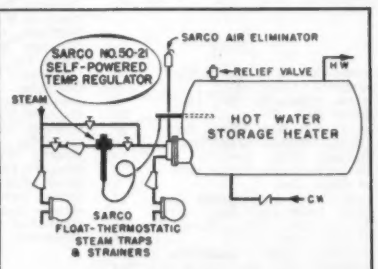


Low-cost insulated steel sidewall panels which are assembled during erection consist of a layer of insulation sandwiched between two sheets of Truscon 24-in. Ferrobord or galvanized ribbed siding. Uses extend to office buildings, warehouses, and other commercial and industrial structural frame buildings. The 1-in. thick No. 6 density glass fiber insulation has a vapor seal on the interior face. Painted or galvanized panels are furnished in widths to 2 ft and up to 40 ft long. Interlocking side joints blend with the fluted design of the panel. Metal gages range from 18 to 26. • **Republic Steel Corp.**, Truscon Div., 1315 Albert St., Youngstown 1, Ohio.

▲ For more details circle NED-1135 F on enclosed inquiry slip ▲



Sarco Self-Powered Temperature Control



Typical Applications
Shell and tube heat exchangers, condensers, oil storage tanks, dryers, etc.

Low-cost • Automatic
TEMPERATURE CONTROL

Simple as ABC . . . a thermostat with capillary tubing and a valve. That's all! That's why this Sarco SELF-POWERED temperature control is so trouble-free . . . and inexpensive.

1. No gadgets needing a technician to read and repair.
2. Self-contained — no exposed mechanism. Packless valve.
3. Self-powered — no compressed air or electricity needed.
4. Not affected by cross-ambient temperatures or elevation of the bulb.
5. Easy to install by any pipefitter.
6. Thousands give accurate service . . . for firms like Colgate-Palmolive Co., Sinclair Refining Co., Swift & Co.

Write for Bulletin 620 to Sarco Co., Inc., 635 Madison Avenue, New York 22, N. Y. 3781

SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA

▲ For more details circle NED-1136 F on enclosed inquiry slip ▲

Fix them fast with
SPEED PATCH
EASILY APPLIED BY ONE MAN
NO TRAFFIC DETOURS, NO WAITING

Worn, broken floors slow down traffic, increase accident hazards. Smooth out rough floors, improve safety, with Speed-Patch! Ready-mixed, easy to apply. Two grades; Speed-Patch Regular for covering large areas, wide holes and cracks; Speed-Patch Fine for shallow holes, thin cracks, etc. Send for details.

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois

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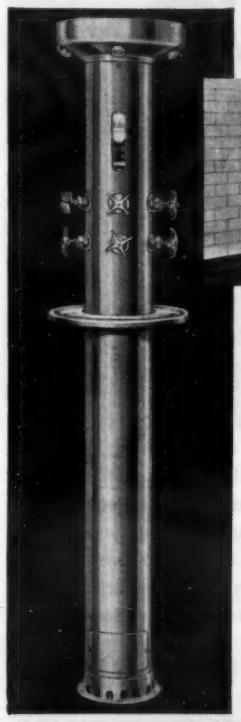
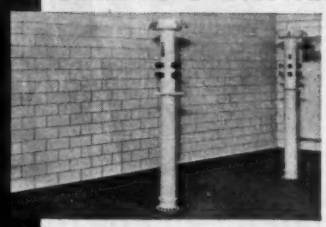
BRADLEY SHOWERS



EACH COLUMN SERVES 5 BATHERS



Where shower stall separations are not essential, the Bradley Column Shower offers the lowest cost bathing facilities. One Column provides for five bathers, each with control of water supply and temperature. They are widely used with or without stall partitions and curtains.

Furnished in stainless steel or steel with baked-on enamel in six colors. Three heights: 6', 5'5" and 5'. . .Write for latest edition of Catalog 5601. BRADLEY WASHFOUNTAIN CO., 2255 W. Michigan St., Milwaukee 1, Wisconsin.

BRADLEY *multi-person* **SHOWERS**
Distributed Through Plumbing Wholesalers

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SMALL STEAM TRAP
. . . but large capacity!

New Design
New Operating Principle

Small as a tee fitting! That's the Sarco TD . . . all sizes ⅜ to 1"!

But don't let the small size fool you! ½" Sarco TD, for example, has capacity of 1280 lbs/hr, 150 psi, saturated steam temperature.

Capacity is determined, *not* by a bulky body, but by the effective orifice, valve action, pressure drop, and condensate temperature. 3945

Few of many advantages

Same trap and large capacity seat for all pressures, 10 to 600 psi . . . light or heavy loads. Self-adjusting. Has no valve mechanism. Only one moving part.

Ask for 60-day trial. We'll see that you receive a Sarco TD steam trap and strainer for free trial. No cost or obligation. Buy only if completely satisfied. Advise size — ⅜, ½, ¾, or 1" — and use. Sarco Co., Inc., 635 Madison Avenue, New York 22, New York.

SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA

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NEVER A MISTAKE

WHEN IT'S MARKED!

Stop questions that arise as to type of material, grade, weight and testing strength. Qualify them permanently and uniformly with a Matthews' Marking Unit and steel marking dies designed specifically for you. Write or call today for a marking analysis of your products. Sample parts and drawings are helpful in determining the correct marking application.

JAS. H. MATTHEWS & CO.
3943 FORBES STREET, PITTSBURGH 13, PA.
OFFICES IN PRINCIPAL CITIES WRITE, CALL OR TWX PG 424

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97% ISN'T PERFECT

but it can't be matched by any other mechanical push-pull control

Controlex has high efficiency because it is a ball-bearing precision built, truly remote control that's easily installed with any amount of curvatures. The Controlex control has wide applications in most industries. For further information write

FOR YOUR MOST IMPORTANT CONNECTIONS

CONTROLEX
CONTROLEX CORPORATION OF AMERICA • WHITE PLAINS, N. Y.

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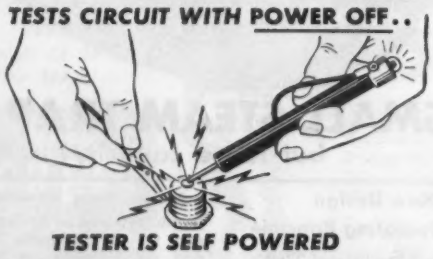
THE SAFE
BURNWORTH Electrical CIRCUIT TESTER
ONLY $1.98
THOUSANDS OF THESE ALL PURPOSE CONTINUITY TESTERS ARE NOW IN USE

TESTS CIRCUIT WITH POWER OFF..



TESTER IS SELF POWERED

THIS ALL PURPOSE CONTINUITY TESTER
Saves Time—Saves Money
Designed by an ELECTRICIAN for ELECTRICIANS & MECHANICS

• Locates grounded wires • Locates shorted wires
• Distinguishes any pair of wires in a group

HARDWARE—ELECTRICAL OR AUTO SUPPLY STORES

If not available locally, send Purchase Order or check $1.98

BURNWORTH TESTER CO.
815 Pomona Ave., El Cerrito, Calif.
(we pay postage)

▲ For more details circle NED-1142 F on enclosed inquiry slip ▲

Index to Advertisers

A

A & A Mfg. Co., Inc. 95
ACF Industries, Inc., W-K-M Div. 108
Abrasive Products, Inc. 38
Accurate Mfg. Co. 39
Acromark Co., The 56
Adams, R. P., Co., Inc. ..5, 106
Aero-Motive Mfg. Co. 98
Aeroquip Corp. 64
Aerovent Fan Co., Inc. 16
Agastat Timing Instruments, Div. of Elastic Stop Nut Corp. of America 49, 116
Aget Mfg. Co. 17
Air-Hydraulics, Inc. 99
Air Placement Equipment Co. 80
Airaterra 8
Alan Wood Steel Co. 50
Albion Industries, Inc. 33
Alemite Div., Stewart-Warner Corp. 107
Allen, Alva, Industries 78
Allen-Bradley Co. 30
Allis, Louis, Co., The 48
Allis-Chalmers 57, 110
Alloys Unlimited, Inc. 70
Alpha Metals, Inc. 2
Alpha-Molykote Corp. 24
Alsto Co. 64
Aluminum Co. of America .. 31
Aluminum Products, Inc. .. 20
American Allsafe Co., Inc. .. 102
American Chain & Cable Co. 3
American Machine and Metals, Inc. 115
American Metal Products Co. 27
American Meter Co. 78
American Monorail Co. 77
American Optical Co., Instrument Div. 47
American Optical Co., Safety Products Div. 104
American Society for Metals.. 2
Ames, B. C., Co. 64
Anderson, V. D., Co. 22, 87
Arcos Corp. 101
Armite Laboratories 119
Armstrong-Blum Mfg. Co. .. 44
Artus Corp., The 43
Associated Spring Corp. 13
Atlas Press Co., Clausing Div. 68
Auburn Ball Bearing Co. 102
Aurand Mfg. & Equipment Co. 11
Auto-Diesel Piston Ring Co... 66
Auto-Ponents, Inc. 39
Automatic Transportation Co. 36
Automation Devices, Inc. 73
Avery Label Co. 114

B

Badger Meter Mfg. Co. 30
Ballymore Co. 70
Barker Engineering Co. 114
Barnstead Still & Sterilizer Co. 20
Barrett-Cravens Co. 43
Basnik, Vince, Co., The 22
Bassick Co. 86
Bausch & Lomb Optical Co. 83
Beck Equipment Co. 33
Becker Brothers Carbon Co. . 74
Bee Chemical Co. 86
Bellows-Valvair 62, 109
Bennett Pump Div., John Wood Co. 81
Bergen Wire Rope Co. 87
Biddle, James G., Co. 102
Bil-Jax, Inc. 30
Binks Mfg. Co. 39
Black & Decker Mfg. Co. 11, 43, 120
Black Drill Co. 78
Blackmer Pump Co. 85
Blaw-Knox Equipment Div., Blaw-Knox Co. 40
Borroughs Mfg. Co. 38
Bostitch, Inc. 16
Bowser, Inc. 22, 109
Boyar-Schultz Corp. 60
Bradley Washfountain Co. .. 117
Brady, W. H., Co. 20
Branson Ultrasonic Corp. .. 54
Breeze Corporations, Inc. 82
Breuer Electric Mfg. Co. .. 69
Brewer Machine & Gear Co. . 8
Brightboy Industrial Div., Weldon Roberts Rubber Co. 26
Brighton Screw & Mfg. Co. 34
Brookfield, Inc. 97
Brooks & Perkins, Inc. 90
Brown, W. R., Corp. 115
Brown Engineering Co. 75
Browning Mfg. Co. 2
Buckeye Tools Corp. 52
Buffalo Meter Co. 48
Bullard, E. D., Co. 32
Burnworth Tester Co. 118
Buschman, E. W., Co. 8
Bussmann Mfg. Co. 60, 61

C

Cambridge Wire Cloth Co. .. 35
Campbell Chain Co. 8
Carter Products Co., Inc. .. 3
Chain Belt Co. 53
Chicago Tool & Engr. Co. .. 59
Chicago Wilcox Mfg. Co. ... 40
Chicopee Mills, Inc. 89
Chisholm-Moore Hoist Div. .. 2
Cir-Clips, Inc. 6
Clark-Cutler-McDermott Co... 51
Clark Door Co., Inc. 45
Clausing Div., Atlas Press Co. 68
Clayton-Mark & Co. 85
Clements-Cadillac Quik-Vac .. 114
Clements Mfg. Co. 114
Cleveland Crane & Engineering Co. 84
Cleveland Tramrail Div., Cleveland Crane & Engineering Co. 84
Cleveland Vibrator Co. 99
Cleveland Worm & Gear Co... 106
Cochrane Corp. 5
Coffing Hoist Div. of Duff-Norton Co. 98
Colorado Fuel & Iron Corp., The 23
Colson Corp. 72
Columbia Electric Mfg. Co. .. 47
Columbus McKinnon Chain Corp. 3
Commander Mfg. Co. 56
Commercial Centerless Grinding Co. 105
Commercial Shearing & Stamping 101
Conco Engineering Works 100
Cone Drive Gears, Div. Michigan Tool Co. 58
Conley, Baltzer & Steward, Rol-A-Chart Div. 70
Conneaut Rubber & Plastic Co. 112
Controlex Corp. 118
Conveyor Specialty Co. 96
Convoy, Inc. 26
Coppus Engineering Corp. .. 30
Corning Glass Works 40
Cover, H. S. 8
Cramer Controls Corp. 48
Crane Packing Co. 111
Crown Industrial Products Co. 9
Cullen-Friestedt Co. 12
Cunningham, M. E., Co. 65

D

D & M Products, Inc. 18
Dayton Rogers Mfg. Co. 105
Defiance Machine & Tool Co. 33
Delavan Mfg. Co. 15, 50
Delta Power Tool Div., Rockwell Mfg. Co. 29
Deluxe Metal Products Div., Royal Metal Mfg. Co. ..68, 69
Deming Co. 14
Dempster Brothers 59
Detecto Scales, Inc. 5
Detroit Stamping Co. 87
Deublin Co. 93
Dexion Inc. 83
Diagraph-Bradley Industries, Inc. 75
Diamond Expansion Bolt Co. . 101
Dick, A. B., Co. 7
Dillon, W. C., & Co., Inc. ... 3
Dings Magnetic Separator Co. 88
Dixon Valve & Coupling Co. .. 66
Dodge Mfg. Co. 77
Dow Corning Corp. 63
Drake Manufacturing Co. 56
Dravo Corp. 24
Driv-Lok Sales Corp. 107
Drum Parts, Inc. 115
Duff-Norton Co. 3, 98
Dundick Tool Works, Inc. .. 111
Duo-Fast 24
Durabla Mfg. Co. 11
Dust Suppression & Engineering Co. 83
Dwyer, F. W., Mfg. Co. 65
Dymo Corp. 68

E

Eagle Mfg. Co. 81
Eagle Signal Co. 110
Eastern Industries, Inc. 89
Eastman Kodak Co. 37
Eaton Mfg. Co., Reliance Div. 95
Econ-O-Veyor 14
Economy Engineering Co. 103
Edmund Scientific Co. 2, 120
EICO 93
Eklind Tool & Mfg. Co. 106
Elastic Stop Nut Corp. of America 49, 118
Electro-Mechano Co., The .. 92
Electroline Products 91
Elliott Co. 90
Ellis, George D., & Sons, Inc. 56
Engler Instrument Co. 15
Eonic, Inc. 93
Equipment Mfg. Inc. 71
Erico Products, Inc. 109
Erlez Mfg. Co. 90
Euclid Crane & Hoist Co. 44
Eyelet Tool Co., Inc. 112
Eynon-Dakin Co. 10

F

Faber, A. W.-Castell Pencil Co. 42
Fabreeka Products Co., Inc. . 97
Fafnir Bearing Co. 76
Fairbanks Co., The 28
Falcon Alarm Co. 113
Farrelloy Co. 120
Farval Corp. 102
Fastener Corp. 24
Fastex Div. of Illinois Tool Works 97
Fawick Airflex Div., Fawick Corp. 25
Federal-Mogul Div., Federal-Mogul-Bower Bearings, Inc. 26
Federal Press Co. 91
Federal Products Corp. 87
Federal Tool & Mfg. Co. 76
Fenwal, Inc. 61
Ferro Corp. 76
Finnell System, Inc. 94
Flexaust Co., The 28
Flexo Products, Inc. 105
Flexonics Corp. 10
Flexrock Co. 120
Flintkote Co. 53
Foley Mfg. Co. 67
Formica Corp. 10
Formsprag Co. 103
Foster, L. B., Co. 84
Foster Supplies Co. 102
Fostoria Corp. 28
Foxboro Co. 5
Franklin Electric Co., Inc. .. 80
Fuller Co. 79

G

GPE Controls, Inc. 36
Gardner-Denver Co. 72
Gardner Machine Co. 46
Garlock, Inc. 18, 109
Gast Mfg. Corp. 76
Gemco Electric Co. 10
General Electric Co. 19, 52, 87
General Radio Co. 47
General Tire & Rubber Co. .. 65
Gerrard, A. J., & Co. 46
Gleason Reel Corp. 83
Globe Co., The, Products Div. 90
Goodyear Tire & Rubber Co. 27
Gottscho 52
Gould National Batteries, Inc. 6
Graphic Systems 106
Gravely Tractors, Inc. 59
Gray Co., Inc. 50
Greene, Tweed & Co. 60
Gregory Industries, Inc. 113
Grey Hub Trolley Wheel Co. 116
Gries Reproducer Corp. 104
Grieve-Hendry Co. 99
Grip Nut Co. 88
Griphoist, Inc. 12

H

Hallemite Mfg. Co. 26
Haloid Xerox Inc. 99
Hamilton Caster & Mfg. Co. 98
Hamilton Tool Co., The 15
Hammond Machinery Builders 103
Hanchett Magna-Lock Corp... 48
Hannifin Co. Div. of Parker-Hannifin Corp. 35
Hansen Mfg. Co. 55
Harrington Co., The 102
Harrington & King Perforating Co., Inc. 108
Hartzell Propeller Fan Co. .. 34
Heinemann Electric Co. 103
Hetherington & Berner, Inc. 115
Hild Floor Machine Co. 113
Hilliard Corp., The 95
Hobbs, John W., Corp. 78
Hobbs Mfg. Co. 100
Hoffman Engineering Corp. .. 110
Hollaender Mfg. Co. 100
Holz Rubber Company, Inc. .. 44
Homer Mfg. Div., The Ohio Electric Mfg. Co. 10
Homestead Valve Mfg. Co. .. 101
Hones, Charles A., Inc. 42
Hoover Ball & Bearing Co. .. 52
Hough, Frank G., Co. 91
Houghton, E. F., & Co. 100
Howard Industries, Inc. 41
Hunt Valve Co. 88
Hydraulic Mfg. Co. 120
Hydraulic Press Mfg. Co. 51

I

Ideal Industries, Inc. 11
Ideal Stencil Machine Co. .. 88
Illinois Testing Laboratories, Inc. 110
Imperial Brass Mfg. Co. 61
Induction Heating Corp. 44
Industrial Electronic Engineers, Inc. 69
Industrial Engineering Equipment Co. 49
Industrial Handling Equipment Co. 108
Industrial Marking Equipment Co. 54
Industrial Products Co. 6
Ingersoll-Rand 55
Injection Molders Supply Co. 82
International Latex Corp. .. 4

J

Jackes-Evans Mfg. Co. 69
Jacobson Nut Mfg. Corp.... 98
Jeffrey Mfg. Co. 35
Jenkins', M. W., Sons, Inc. 108
Jenkins Bros. 64
Jergens Tool Specialty Co. .. 20
Jiffy Mfg. Co. 32
John A. Roebling's Sons Div., The Colorado Fuel & Iron Corp. 40
Johnson Bronze Co. 85
Johnson Gas Appliance Co. .. 103
Johnson Mfg. Corp. 63
Jomac, Inc. 26
Jones, Howard B., Div., Cinch Mfg. Corp. 46
Jones & Hunt, Inc. 2
Jordan Corp. Div. of OPW Corp. 28

K

Kano Laboratories 16
Kelley Co., Inc. 63
Kerotest Mfg. Co. 91
Kester Solder Co. 114
Kidde, Walter, & Co., Inc. 36, 79
Kinnear Mfg. Co. 83
Kinney Vacuum Div., The New York Air Brake Co. 38
Kling Bros. Engineering Works 34

L

Lamb Electric Co. 72
Lamson & Sessions 21
Lapp Insulator Co. 59
LaSalle Steel Co. 113
Leiman Bros., Inc. 84
Leonard Precision Products Co. 88
Lepel High Frequency Laboratories, Inc. 107
Lermer Plastics, Inc. 93
Lewis, G. B., Co. 99
Lewis-Shepard Products, Inc. 54
Lift Trucks, Inc. 114
Lincoln Engineering Co. 108
Link-Belt Co. 43
Littell, F. J., Machine Co. .. 107
Locke Steel Chain Co. 117
Lockformer Co., The 82
Logan Co. 4
Logan Engineering Co. 94
Longhorn Engineering Co. .. 6
Lord Mfg. Co. 41
Lovejoy Flexible Coupling Co. 20
Lucas-Milhaupt Engineering Co. 76
Lug-All Co., The 116
Lyon Metal Products, Inc. .. 25

M

M B Electronics, A Div. of Textron Electronics, Inc. .. 71
M-B Corp. 91
Macwhyte Wire Rope Co. 45
Magline, Inc. 120
Mahon, R. C., Co. 67
Main, Robert A., & Sons, Inc. 72
Manning, Maxwell & Moore, Inc. 37
Markem Machine Co. 37
Marlin-Rockwell Corp. 74
Marsh Instrument Co. Div. of Colorado Oil & Gas Corp. .. 104
Marx, Clarence J., Co. 86
Mason-Neilan Div., Worthington Corp. 67
Master Lock Co. 12
Master Power Corp. 32
Matthews, Jas. H., & Co. 118
May-Fran Engineering, Inc. .. 28
McGill Mfg. Co. 49, 106
Mead Specialties Co. 42
Mechanical Products Corp. .. 90
Mercoid Corp. 27
Merrill Brothers 49
Methods Research Corp. 27
Metzgar Conveyor Co. 78
Meyercord Co. 74
Michigan Oven Co. 96
Micro-Switch, A Div. of Minneapolis-Honeywell Regulator Co. 79
Milford Rivet & Machine Co. 82
Miller Electric Mfg. Co., Inc. 69
Minerals & Chemicals Corp. of America 93
Minnesota Mining & Mfg. Co. 95
Mitts & Merrill 63
Mixing Equipment Co., Inc. 22
Molly Corp. 5
Montgomery & Co. 108
Morse Chain Co., A Borg-Warner Industry 14
Mortell Co. 33
Mueller Brass Co. 25
Multi-Clean Products, Inc. .. 100

N

NRC Equipment Corp. 34
National Acme Co. 97
National Air Vibrator Co. .. 16
National-Detroit, Inc. 76
National Perforating Corp. .. 81
National Screw & Mfg. Co. 81
National Standard Co. 30, 89
National Ultrasonic Corp. .. 22
Naylor Pipe Co. 58
Nestier Corp. 94
New York Air Brake Co., Kinney Vacuum Div. 38
Newark Wire Cloth Co. 82
Niagara Blower Co. 86
Norgren, C. A., Co. 33
Northwestern Tools, Inc. .. 37
Notat Tire Company 18
Nu-Matic Grinders, Inc. 68
Nylogrip Products 72

O

Ohio Nut & Bolt Co. 59
O'Neil-Irwin Mfg. Co. 85
Osborn Mfg. Co., The 16

P

PIC Design Corp. 45
Pacific Transducer Corp. 60
Packaged Merchandise Co. .. 34
Palmer-Shile Co. 111
Palnut Co. 34
Parker Fittings & Hose Div. of Parker-Hannifin Corp. .. 92
Parker-Hannifin Corp. ..35, 58, 92
Parker-Kalon Div., General American Transportation Corp. 62
Parker Seal Co., Div. of Parker-Hannifin Corp. 58
Parks-Cramer Co. 113
Pass & Seymour, Inc. 73
Pedrick Tool & Machine Co. 73
Penco Div., Alan Wood Steel Co. 47
Perfecting Service Co. 17
Permacel 71
Pfaudler-Permutit, Inc., Pfaudler Div. 96
Phillips Process Co., Inc. 17
Photomation, Inc. 37
Pine, William S. 105
Pines Engineering Co. 80
Pioneer Rubber Co. 107
Platecoil Div., Tranter Mfg., Inc. 82
Pocono Fabricators, Inc. 62
Polymer Corp. of Penna. 36
Portage Double-Quick, Inc. .. 38
Porter, H. K., Inc. 14
Porter-Cable Machine Co. 106
Positive Safety Mfg. Co. 55
Potdevin Machine Co. 30
Potts, Horace T., Co., Speedline Stainless Steel Fittings Div. 94
Powers Regulator Co. 14
Prab Conveyor Co. 68
Practical Mfg. Co. 66
Princeton Gripholst, Inc. 12
Propellair Div. of Robbins & Myers, Inc. 77
Protectoseal Co., The 50
Pulverizing Machinery Div., Metals Disintegrating Co. . 79

Q

Quickdraft Corp. 65
Quincy Compressor Co. 55

R

Radio Corporation of America 57, 111
Rain Jet Corp. 58
Rapids-Standard Co., Inc. .. 47
Raybestos-Manhattan, Inc. .. 95
Raymond Corp., The 94
Reed Mfg. Co. 44
Reliance Electric & Engineering Co. 17
Reproduction Engineering Corp. 85
Republic Rubber Div. 51
Republic Steel Co. 15
Research Products Corp. .. 79
Reuland Electric Co. 56
Reveo, Inc. 104
Revolvator Co. 86
Reynolds Metals Co. 67
Reznor Mfg. Co. 77
Richards, J. A., Co. 41
Richards-Wilcox Mfg. Co. 111
Riehle Testing Machines Div., American Machine and Metals, Inc. 115
Rivett, Inc. 84
Robbins & Myers, Inc., Hoist & Crane Div. 51
Roberts, Weldon, Rubber Co., Brightboy Industrial Div. .. 26
Robotron Corp. 66
Rock-Tred Corp. 117
Rockwell Mfg. Co. 29
Rockwell Mfg. Co., Nordstrom Valve Div. 29
Rockwood Sprinkler Co. ..38, 115
Roll-A-Reel 113
Roper Hydraulics, Inc. 88
Ross Equipment Co., Inc. .. 10
Rotary Lift Co. 58
Rotor Tool Co. 108
Roura Iron Works, Inc. 41
Russell Gasket Co. 114
Rusticide Products Co. 22

S

SKF Industries, Inc. 60, 61
Safway Steel Products, Inc. .. 104
Salem-Brosius, Inc. 105
Sales Service Mfg. Co. 98
Sarco Co., Inc. 117
Sauerman Bros., Inc. 49
Scandura, Inc. 6
Scherr-Tumico 26
Schrader's, A., Son, Div. of Scovill Mfg. Co. 16, 107
Screw Conveyor Corp. 53
Schutte & Koerting Co. 8
Severance Tool Industries, Inc. 74
Sexauer, J. A., Mfg. Co. 101
Shakeproof Div., Illinois Tool Works 117
Shenango Furnace Co. 65
Sigmamotor, Inc. 41
Simmons Fastener Corp. 46
Simplatrol Products Corp. 116
Simplicity Engineering Co..... 60
Sinclair-Collins Valve Co., The 99
Skil Corp. 52
Skinner, M. B., Co. 50
Skinner Chuck Co., The 66
Smooth-On Mfg. Co. 46
Snap-On Tools Corp. 96
Sommer Metalcraft Corp. 77
Southern Screw Co. 113
Southwest Products Co. 66
Special Screw Products Co. .. 32
Speco, Inc. 10
Speed Selector, Inc. 92
Speedline Stainless Steel Fittings Div., Horace T. Potts Co. 94
Sperry Products Co. 110
Spray Engineering Co. 84
Spraying Systems Co. 92
Sprayon Products, Inc. 81
Springport Steel Products Co. 106
Sprout-Waldron & Co. 24
Square D Co. 39
Stackbin Corp. 35
Stackpole Carbon Co. 27
Stahl Metal Products, Inc. .. 73
Stalwart Rubber Co. 89
Standard Dry Wall Products, Inc. 48
Standard Pressed Steel Co., Industrial Fastener Div. 40, 67, 109
Stanley Works, The 20, 80
Sta-Warm Electric Co. 14
Stearns Electric Corp. 120
Stearns Magnetic Products Div. of Indiana General Corp. 51
Stephens-Adamson Mfg. Co. . 17
Steward, D. M., Mfg. Co. .. 111
Stewart-Warner Corp. 24
Stewart-Warner Corp., Alemite Div. 107
Stiles-Karlsonite Corp. 80
Stone Container Corp. 24
Stoody Co. 55
Structoglas, Inc. 25
Sturtevant Mill Co. 50
Sundstrand-American Broach Div. of Sundstrand Machine Tool Co. 110
Supreme Products Corp. 71
Surety Rubber Co. 70
Sutton Mfg. Corp. 54
Swepco Tube Corp. 4

Advertisers Index—Continued

Swift Glass Div., Swift Lubricator Co., Inc. 112
Synthane Corp. 18

T

Taylor Instrument Companies 57
Tennant, G. H., Co. 15
Thomson Industries, Inc. ..61, 63
Thor Power Tool Co. 58
Thriftmaster Products Corp. 75
Tokheim Corp. 57
Tolerton Co. 84
Tompkins-Johnson Co. 64
Toolset, Inc. 116
Torit Mfg. Co. 35, 74
Towmotor Corp. 44
Townsend Co. 112
Tranter Mfg., Inc., Platecoil Div. 82
Trent, Inc. 74
Trippe Mfg. Co. 80
Tropical Paint Co. 71
Troy Blanket Mills, Industrial Products Div. 73
Tube-Strut Corp. 89
Tulsa Winch Div., Vickers, Inc. 92
Twentieth Century Plastics, Inc. 8
Twin Disc Clutch Co. 116

U

Ullman Devices Corp. 119
Union Metal Mfg. Co. 60, 61
Unisorb Div. of The Felters Co. 43
U. S. Graphite Co. 39, 57
U. S. Industrial Glove Corp. 105
U. S. Safety Service Co. 54
U. S. Stoneware Co. 45
Universal Shredder Co. 53
Utica Drop Forge & Tool Div., Kelsey-Hayes Co. 112

V

Vaco Products Co. 28
Vanton Pump & Equipment Corp. 98
Varflex Corp. 36
Vickers, Inc. 4
Virginia Smelting Co. 32
Vichek Tool Co., The 56

W

W-K-M Division of ACF Industries Inc. 108
Wales Strippit Inc. 42
Walker-Turner Div. of Rockwell Mfg. Co. 29
Warner Electric Brake & Clutch Co. 32
Warren Refining & Chemical Co. 12
Wassell Organization, Inc. .. 112
Watlow Electric Mfg. Co. 12
Weatherhead Co., The 78
Webster Electric 18
Webster Instrument, Inc. 11
Webster Mfg., Inc. 93
Wells Mfg. Corp. 14, 115
Wendnagel & Co., Inc. 4
Werner, R. D., Co., Inc. 112
West Bend Equipment Corp. 92
Wheel Trueing Tool Co. 62
White, S. S., Plastics Div... 75
Whiting Corp. 100
Whitney Chain Co. 70
Wiegand, Edwin L., Co. 4, 97
Wilkerson Corp. 18
Wilson, K. R., Inc. 54
Wilson Mechanical Instrument Div., American Chain & Cable Co., Inc. 3
Wilton Tool Mfg. Co. 12
Wing, L. J., Mfg. Co. 62
Winnen Incinerator Co. 5
Wintriss, Inc. 12
Winzeler Mfg. & Tool Co. .. 49
Wire & Iron Products, Inc. .. 104
Wirth, Carl, & Son, Inc. 70
Witt Cornice Co., The 115
Wolverine Tube Div., Calumet & Hecla, Inc. 5, 97
Wood, John, Co., Bennett Pump Div. 81
Wood's, T. B., Sons Co. 96
Worcester Valve Co., Inc. .. 104

Y

Yarnall-Waring Co. 109
Yoder Co., The 42

Z

Zagar, Inc. 2
Zenith Electric Co. 53
Zero-Max Co., The 46
Zippertubing Co. 6

Index to Products

A

Abrasive Products 26, 38, 46, 54, 60, 96
Adhesives 46, 61, 73, 105, 113
Air Conditioning Equipment 65, 96, 110
Alarms 6, 36, 113
Alloys 2, 65, 112, 116
Aluminum 31

B

Balancing Equipment.24, 104, 110
Batteries 6
Bearings 17, 25, 26, 31, 49, 52, 53, 60, 61, 63, 65, 66, 73, 74, 76, 85, 102, 112, 116
Bellows 94
Belting 2, 6, 36, 96
Belts, Conveyor 6, 23, 44
Bench Legs 25
Bench Tops 84
Benders 41, 73, 88
Bins & Boxes 22, 24, 26, 35, 38, 56, 94, 99
Bird Control 80
Bolts.....21, 34, 62, 113
Boots 95
Brakes 45, 68, 116, 120
Brushes, Electric 39, 57
Brushes, Industrial 16, 108
Building Materials ..25, 107, 117
Buildings 69
Burners, Oil & Gas 60, 92
Bushings 26

C

Cabinets...6, 25, 38, 68, 104, 114
Cabinets, Key 34
Cams & Followers 78, 93
Cans 50, 56, 81, 115
Carbon & Graphite Products.8, 74
Casters 33, 47, 66, 72, 86
Cements, Repair 26, 46, 111
Chains & Fittings ...3, 8, 70, 72
Chucks 66, 68, 70
Clamping Devices.37, 82, 87, 115
Clamps, Lifting ...12, 32, 49, 91
Cleaners, Air..5, 27, 87, 106, 115
Cleaners, Drain 93, 120
Cleaners, Tube 90
Cleaners, Vacuum 3, 11, 113
Cleaning Equipment, Blast.18, 80
Cleaning Machines 17, 22, 47, 49, 50, 54, 60, 66, 70, 82
Cleaning Materials 4, 93, 100
Clutches 4, 8, 11, 32, 45, 76, 103, 114, 116
Coatings, Protective 9, 10, 34, 45, 53, 62, 109
Communications Equipment 73, 93, 104, 111
Compressors 50, 55, 68, 108
Condensation Preventive 33
Condensers 8, 55
Contacts, Electric 16
Controls, Air & Hydraulic 14, 25, 39, 42, 48, 51, 52, 60, 62, 74, 78, 83, 84, 107, 110
Controls, Bin Level 79
Controls, Edge Position 36
Controls, Electric 10, 30, 39, 56, 62, 79, 89, 94, 97, 102, 103
Controls, Level 18
Controls, Pressure & Temperature 17, 19, 27, 28, 29, 30, 33, 46, 47, 57, 67, 71, 77, 81, 90, 91, 99, 106, 114, 117
Controls, Production 27, 70, 78, 106, 112
Controls, Remote 14, 68, 79, 84, 106, 110, 118
Conveyor Accessories 43, 53, 74, 77, 78, 90, 106, 108, 116
Conveyors 4, 8, 14, 27, 28, 47, 63, 64, 65, 67, 68, 77, 78, 88, 91, 96, 100
Coolant Systems 85
Counting Devices 16
Couplings, Flexible 41, 45
Crane Accessories 32, 46, 100
Cranes 1, 39, 83, 100, 102
Cutters, Metal 3, 14, 41, 85
Cylinders, Air & Hydraulic 16, 26, 35, 62, 64, 91, 102

D

Deburring Equipment 77, 80
Detectors, Missing Parts 12
Dies & Accessories 42
Dockboards & Ramps 18, 58, 63, 87, 90, 120
Door Operators ...20, 57, 83, 111
Doors, Industrial 23, 45, 67, 111, 114
Draft Inducers 65
Drafting Equipment 2, 30, 42, 65, 80, 107
Drill Heads, Adjustable..2, 56, 75
Drilling Machines 22, 72, 86, 108, 109
Drills & Accessories 78
Drills, Masonry 1, 9, 40, 62
Drives, Machine 30, 88, 94, 96, 100, 103, 112, 114
Drives, Variable Speed 17, 20, 24, 27, 46, 64, 92, 106
Drive Tensioners 8
Drying Equipment 35, 66
Dumpers, Truck 53
Dust Collectors 6, 17, 35, 74, 79, 83

E

Electronic Equipment 11, 21, 39, 47, 51, 66, 93, 94, 104, 108
Elevating Equipment 14, 15, 43, 57, 58, 92, 94
Engines, Industrial 89, 114
Envelopes, Transparent 8, 34
Exhausters 30, 65

F

Fabricating Equipment 42, 80
Fans & Blowers 11, 34, 50, 54, 77, 114
Fasteners 5, 6, 21, 31, 34, 36, 37, 38, 40, 46, 49, 54, 56, 58, 62, 67, 81, 82, 88, 95, 97, 98, 101, 102, 104, 105, 107, 109, 112, 113
Faucet Repairs 101
Faucets 19
Feeders 26, 57, 73, 84, 92, 119
Felt Products 73
Filtering Equipment 5, 95
Finishes 9, 10, 45, 71, 86, 98, 115, 120
Finishing Equipment.39, 79, 81, 92
Fire Extinguishing Equipment 79, 83
Floor Machines 32, 69, 94
Flooring Materials..24, 31, 40, 48, 50, 90, 94, 100, 106, 117, 120
Forgings 25, 96, 101
Framing 15, 83
Furnaces, Industrial 42, 70, 74, 103
Fuses 60, 61

G

Gages, Level 35
Gages, Precision 2, 26, 48, 64, 72, 83, 87, 90, 94, 102, 111, 116, 120
Gages, Pressure & Temperature 11, 65, 96
Gearing 49, 71
Generators 19
Glare Preventives 9
Glass Products 40, 112, 113
Glazing Materials 25
Gloves, Industrial.26, 70, 105, 107
Grating 24, 40, 48, 90
Grinding Equipment 8, 29, 60, 68, 80, 98, 103
Guns, Blow 8

H

Hammers & Mallets 18, 33, 72, 106
Hardware 23, 46, 59
Heat Exchangers.5, 82, 86, 97, 106
Heaters, Electric 4, 9, 10, 12, 38, 52, 97, 102, 114
Heaters, Electronic & Induction 44, 59, 107
Heaters, Unit 33, 53, 62, 77
Hoists 2, 5, 12, 20, 37, 44, 51, 98, 102, 116
Hose & Fittings 10, 28, 36, 55, 64, 66, 78, 82, 85, 95, 103, 106, 107, 108, 120

I

Incinerators 5, 23, 64, 73
Indicators, Flow 109
Indicators, Pressure & Temperature 110, 112, 116
Inspection Equipment 2, 29, 47, 48, 83, 119, 120
Instruments, Electric 96
Insulation, Electric 4, 6, 36, 39, 63, 97, 101, 106, 107
Insulation, Thermal 88, 89

J

Jacks 3, 88
Jacks, Leveling 51
Jigs & Fixtures 5, 20, 37, 41
Joints, Rotating 17, 93

K

Keyseater 63

L

Labels 14, 20, 30, 41, 68, 69, 74, 109, 116
Laboratory Equipment 87, 96, 108, 116
Ladders 70
Lighting Equipment 10, 31, 77, 92, 106
Lights, Pilot 56, 59, 69
Lockers & Shelving 25, 38, 47, 69, 116
Locks 12
Lubricating Equipment & Materials 9, 10, 12, 16, 18, 24, 45, 76, 102, 111, 115, 116

M

Machine Tool Accessories 20, 37, 59, 64, 65, 85, 97, 108, 116
Machine Tools 94, 110, 114
Magnetic Equipment ..10, 16, 24, 48, 51, 68, 88, 90, 94, 111, 117
Marking Equipment 9, 10, 17, 20, 33, 37, 49, 52, 54, 56, 65, 66, 68, 72, 75, 92, 96, 97, 104, 108, 116, 118
Materials Handling Equipment 12, 13, 16, 24, 32, 41, 49, 59, 60, 61, 77, 84, 86, 91, 93, 98, 99, 100, 105
Materials, Perforated ..81, 89, 108
Meters, Flow 1, 29, 30, 48, 52, 84, 62, 68, 76, 108, 112, 115
Meters, Tong Test 47
Mixing Equipment 14, 22, 24, 50, 102
Mold Releases 82, 111, 120
Motors, Air & Hydraulic ... 35
Motors, Electric 3, 14, 17, 19, 41, 43, 45, 48, 53, 55, 56, 63, 72, 80, 87, 89
Mowers, Lawn 59, 85, 117

N

Nameplates 10, 20, 33, 68, 74
Nozzles, Blast 55
Nozzles, Spray 2, 15, 84
Nuts 5, 21, 34, 37, 49, 62, 88, 98, 104, 109, 113

O

Office Equipment 2, 7, 44, 80, 114
Ovens, Industrial 96, 99

P

Packaging Equipment & Materials 7, 24, 28, 32, 40, 41, 56, 61, 62, 78, 91, 93, 100, 102, 104, 115
Packings & Gaskets 12, 40, 60, 99, 114
Paint Removers 33
Partitions 104
Parts, Precision 25, 81, 112
Photoelectric Equipment ..37, 76
Pins 10, 13, 49, 67, 105, 107
Pipe & Fittings 4, 12, 28, 29, 32, 38, 50, 58, 80, 89, 90, 94, 100, 102, 113
Pipe & Thread Compounds 71, 108, 111, 119
Pipe Tools & Machines 35, 44, 61
Plastic Panels, Reinforced .. 25
Plastics 10, 18, 93, 98, 101, 104, 106, 108, 109, 116
Plugs & Caps 75, 90
Positioners, Work 12, 59, 88
Power Units, Hydraulic 3, 42, 55, 105
Power Units, Industrial Truck 114
Presses 48, 54, 78, 91
Presses, Molding 58
Production Facilities ..10, 31, 99
Pullers 12, 20, 37, 49, 116
Pulleys & Sheaves 9, 17, 20, 36, 40, 92
Pumps 1, 14, 21, 22, 26, 28, 41, 55, 57, 63, 72, 75, 81, 82, 85, 86, 88, 89, 105
Pumps, Air & Vacuum 32, 76, 84
Pumps, Chemical 15, 41, 59, 98
Punches 10, 13, 37, 42, 116
Pyrometers 60, 110

R

Racks 15, 22, 23, 27, 61, 71, 75, 83, 89, 111
Reclaimers & Purifiers 95
Reels, Cord 98
Reels, Hose 50, 83
Reels, Stock 15, 107, 113
Refrigeration Equipment 55, 104
Relays 15, 18, 31, 75, 77, 80, 102, 116
Reproduction Equipment & Materials 7, 37, 67, 85, 89, 95, 99
Resistors 27
Respirators 8, 105
Rings 6, 66, 95
Riveting Equipment 82, 112
Rollers 45, 72
Rubber Products 18, 51, 89, 99, 112
Rust Preventives 9, 22, 62, 98, 113, 117

S

Safety Equipment 4, 6, 19, 22, 25, 31, 36, 40, 48, 50, 54, 55, 66, 79, 81, 82, 90, 93, 102, 103, 104, 110, 115
Saw Blades 17, 56, 58, 76
Saw Guides 3
Saws, Metal & Wood 1, 14, 44, 63, 82, 115
Scaffolding 30, 63, 67, 96, 103, 104, 112
Scales 5, 44, 67, 74
Screwdrivers 28, 52, 58
Screws 21, 36, 40, 56, 58, 62, 113
Seals & Sealants 34, 58, 71, 93, 100, 105, 108, 110, 111, 119
Sharpeners, Saw 67
Shears 1, 3, 34, 94
Shims 40, 43
Shop Equipment 25, 73
Shredders 53
Signs 74, 116
Silicones 63, 82, 111
Sleeves 95
Slide Rules 2
Slings & Fittings 35, 45
Slitters & Rewinders 53
Soldering Equipment & Materials 2, 70, 76, 100, 103, 109, 114, 120
Solenoids 58, 75
Speed Reducers 7, 14, 45, 56, 58, 84, 92, 100, 114
Spray Equipment 2, 15
Springs 6, 13
Sprinklers, Lawn 58
Stampings 76, 105
Stapling Equipment 16, 24
Steel 61, 101, 105, 110, 113
Strainers 22, 94, 99, 109
Strapping, Steel 46
Strippers 33
Sweepers, Power 15

T

Tables 84
Tables, Indexing 99
Tachometers 15, 35, 86, 92
Tackers 24, 57
Tanks 2, 4, 22, 42, 94, 96
Tanks, Compound Melting ... 14
Tape, Industrial 39, 93, 100, 101, 115
Tapping Attachments & Equipment 71, 75, 96
Testing Equipment 1, 3, 11, 21, 22, 24, 28, 47, 52, 57, 67, 76, 78, 90, 96, 104, 115, 118
Thermometers 5, 29, 60, 104
Timing Devices 12, 15, 46, 51, 53, 78, 103, 110, 116
Tires, Industrial 18, 27, 65
Tools, Cleaning 11
Tools, Cutting 1, 5, 20, 38, 49, 70, 74, 89, 108
Tools, Hand 23, 110, 112
Tools, Pneumatic 32, 43, 52, 58, 70, 76, 108
Tools, Portable Electric 11, 43, 52, 64, 80, 104, 106, 120
Towels, Disposable 89
Track & Accessories 84
Tractors 59
Trailers, Industrial 81, 105
Traps, Air & Steam 33, 109, 117
Trolleys 43, 116
Trucks, Hand 25, 43, 54, 65, 94, 98, 108
Trucks, Industrial Power 36, 44, 54, 57, 75, 82, 86, 91, 92, 94, 114
Tubing & Fittings 4, 5, 8, 15, 25, 61, 89, 90, 92, 96, 97, 98, 106

U

Ultrasonic Equipment 13, 22, 49, 50, 54, 61, 70

V

Vacuum Equipment 34, 42
Valves 11, 20, 28, 29, 31, 37, 38, 40, 64, 69, 78, 81, 84, 91, 99, 101, 102, 104, 110, 115
Ventilating Equipment 16, 25, 30, 43
Vibration Absorbers 39, 41, 43, 51, 71, 97, 120
Vibrators 16, 99
Vises 55, 59, 115

W

Washers 13, 26, 40
Washers, Window 74
Washroom Equipment 117
Water Heaters 14, 117
Water Treatment 5, 20, 32, 80
Way-Protectors 95
Welding Equipment 31, 51, 69, 74, 98, 101, 102
Wheels, Industrial 33, 47
Winding Equipment 50, 86, 100
Wire 23, 30, 69
Wire Cloth & Screen 23, 82
Wire, Electric 100
Wire Rope & Fittings 1, 21, 23, 40, 45, 46, 87, 91
Wire Specialties 77
Wiring Devices 38, 39, 47, 73, 85, 97, 100, 110, 117
Workbenches & Tops 73, 84
Wrenches 18, 44, 96, 106

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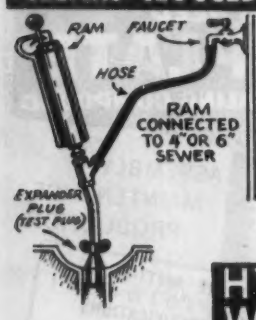

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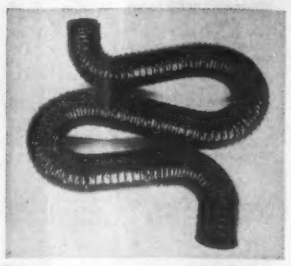

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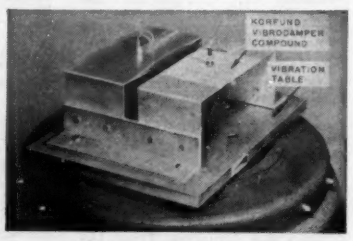
quiets vibration in metal structures



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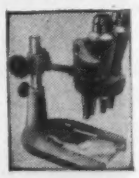

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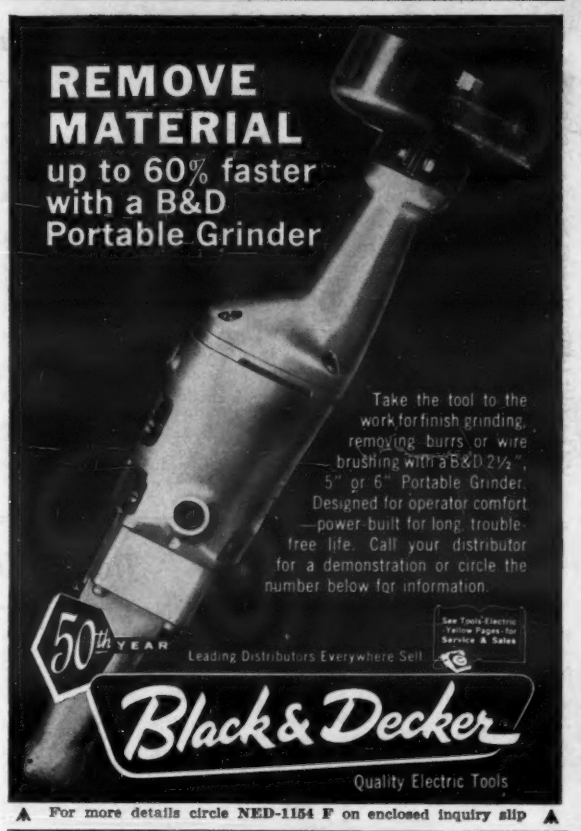

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